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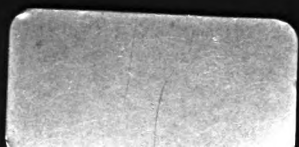
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THE  
HARVARD UNIVERSITY  
CATALOGUE.

1874-75.



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1874.

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*Cambridge:*  
*Press of John Wilson & Son.*

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# CALENDAR.

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*The meetings of the PRESIDENT and FELLOWS are held on the second and on the last Monday of every month.*

## 1874.

- Sept. 28, Monday.* Examination for advanced standing in the Medical School.
- Oct. 1, Thursday.* **Academic Year begins** in all departments of the University.
- Oct. 1, 2, Thursday and Friday.* Examination for admission to the Scientific and Mining Schools, to the Bussey Institution, and to advanced standing in the Law School.
- Oct. 1-3, Thursday to Saturday.* Examination for admission to Harvard College.
- Oct. 14, Wednesday.* Stated Meeting of the Board of Overseers.
- Oct. 21, Wednesday.* Stated Meeting of the Academic Council.
- Dec. 16, Wednesday.* Stated Meeting of the Academic Council.

RECESS FROM DEC. 24, 1874, TO JAN. 6, 1875, BOTH DAYS INCLUDED.

## 1875.

- Jan. 13, Wednesday.* Stated Meeting of the Board of Overseers.
- Feb. 1, Monday.* Last day of receiving applications for aid from the Loan Fund.
- Feb. 8, Monday.* Examination in the Medical School.
- Feb. 15, Monday.* **Second half-year begins.**
- Feb. 17, Wednesday..* Commencement at the Dental School.
- Feb. 17, Wednesday.* Stated Meeting of the Academic Council.
- April 1, Thursday.* Last day of receiving applications of candidates for Second-Year Honors.
- April 7, Wednesday.* Last day of receiving applications for Fellowships.
- April 14, Wednesday.* Stated Meeting of the Board of Overseers.
- April 15, Thursday.* Assignment of College Rooms for 1875-76.
- April 21, Wednesday.* Stated Meeting of the Academic Council.
- April 24, Saturday.* Last day of engaging rooms assigned April 15th.
- June 1, Tuesday.* Last day of receiving applications for Scholarships, or for aid from the Beneficiary Fund. Last day of receiving applications of candidates for Final Honors.



- June 11, Friday.* Last day of receiving names of competitors for the Boylston Prizes.
- June 16, Wednesday.* Examination in the Medical School.
- June 24, Thursday.* Speaking for the Boylston Prizes.
- June 24, Thursday.* Stated Meeting of the Academic Council.
- June 25, Friday.* Seniors' Class Day.
- June 29, Tuesday.* Visitation of the Divinity School.
- June 30, Wednesday.* **Commencement.** Stated Meeting of the Board of Overseers.
- July 1, 2, Thursday and Friday.* Examination for admission to the Scientific and Mining Schools, and to the Bussey Institution.
- July 1-3, Thursday to Saturday.* Examination for admission to Harvard College.
- July 14, Wednesday.* Annual Meeting of the Board of Overseers.

SUMMER VACATION, THIRTEEN WEEKS.

- Sept. 27, Monday.* Examination for advanced standing in the Medical School.
- Sept. 30, Thursday.* **Academic Year begins** in all departments of the University.
- Sept. 30, Oct. 1, Thursday and Friday.* Examination for admission to the Scientific and Mining Schools, to the Bussey Institution, and to advanced standing in the Law School.
- Sept. 30-Oct. 2, Thursday to Saturday.* Examination for admission to Harvard College.

# HARVARD UNIVERSITY

## COMPREHENDS

HARVARD COLLEGE.

THE DIVINITY SCHOOL.

THE LAW SCHOOL.

THE MEDICAL SCHOOL.

THE DENTAL SCHOOL.

THE LAWRENCE SCIENTIFIC SCHOOL.

THE BUSSEY INSTITUTION.

THE LIBRARY.

THE OBSERVATORY.

THE BOTANIC GARDEN AND HERBARIUM.

THE SCHOOL OF MINING AND PRACTICAL GEOLOGY.

THE PEABODY MUSEUM OF AMERICAN ARCHÆOLOGY AND ETHNOLOGY.

The last two are constituent parts of the University ; but their relations to it are affected by certain peculiar provisions.

THE MUSEUM OF COMPARATIVE ZOOLOGY is connected with the University.

Students in regular standing in any one department of the University are admitted free to the instruction given in any other department, with the exception of exercises carried on in the special laboratories.

The legal title of the Corporation is "PRESIDENT AND FELLOWS OF HARVARD COLLEGE."

# DIRECTORY.

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## IN BOSTON.

The office of the **PRESIDENT AND FELLOWS** is at No. 70 Water Street.

The office of the **TREASURER** is at No. 70 Water Street.

The **MEDICAL SCHOOL** is on North Grove Street.

The office of the **SECRETARY of the MEDICAL FACULTY** is at No. 108 Boylston Street.

The **DENTAL SCHOOL** is at No. 50 Allen Street.

The office of the **DEAN of the DENTAL FACULTY** is at No. 222 Tremont Street.

## IN CAMBRIDGE.

The office of the **PRESIDENT** is at No. 5 University Hall.

The office of the **DEAN of the COLLEGE FACULTY** is at No. 5 University Hall.

The office of the **SECRETARY** is at No. 5 University Hall.

The office of the **DEAN of the LAW FACULTY** is in Dane Hall.

The office of the **COLLEGE STEWARD** is in Wadsworth House, Harvard Square.

The office of the **STEWARD of the DINING HALL** is in the north-west tower of Memorial Hall.

The **OBSERVATORY and BOTANIC GARDEN** are on Garden Street.

The **MUSEUM of COMPARATIVE ZOÖLOGY** is on Oxford Street.

**DIVINITY HALL** is reached from Oxford Street or from Divinity Avenue.

## IN JAMAICA PLAIN.

The **BUSSEY INSTITUTION** is at Jamaica Plain. The nearest railroad station is Forest Hills, on the Boston and Providence Railroad.

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## ABBREVIATIONS.

C. College House.

D. Divinity Hall.

G. Grays Hall.

H. Hollis Hall.

H'ke. Holyoke House.

H'y. Holworthy Hall.

M. Matthews Hall.

S. Stoughton Hall.

T. Thayer Hall.

W. Weld Hall.

# GOVERNMENT.



## CORPORATION.

### PRESIDENT.

	Chosen
CHARLES WILLIAM ELIOT, LL.D. . . . .	1869

### FELLOWS.

JOHN AMORY LOWELL, LL.D. . . . .	1837
GEORGE PUTNAM, D.D. . . . .	1853
GEORGE TYLER BIGELOW, LL.D. . . . .	1868
FRANCIS BOARDMAN CROWNINSHIELD, A.M. . . . .	1861
NATHANIEL THAYER, A.M. . . . .	1868

### TREASURER.

NATHANIEL SILSBEE, A.M. . . . .	1862
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## OVERSEERS.

The PRESIDENT and TREASURER of the UNIVERSITY, *ex officio*, and the following persons by election : —

Date of Election.	
1869	{ EDWARD EVERETT HALE, A.M.
	{ WILLIAM ADAMS RICHARDSON, A.M.
	{ ALEXANDER AGASSIZ, A.B., S.B.
	{ CHARLES FRANCIS ADAMS, LL.D., <i>President</i> .
	{ WILLIAM GOODWIN RUSSELL, LL.B.
1870	{ JAMES WALKER, D.D., LL.D.
	{ JOHN CODMAN ROPES, LL.B.
	{ MARTIN BRIMMER, A.B.
	{ HENRY WILLIAM PAINE, LL.D.
	{ PHILLIPS BROOKS, D.D.
1871	{ STEPHEN SALISBURY, A.M.
	{ GEORGE STILLMAN HILLARD, LL.D.
	{ RICHARD HENRY DANA, LL.D.
	{ JAMES LAWRENCE, A.M.
	{ FRANCIS PARKMAN, LL.B.

1872	EDWARD HAMMOND CLARKE, M.D.
	LE BARON RUSSELL, M.D.
	ALEXANDER McKENZIE, A.M.
	DARWIN ERASTUS WARE, LL.B.
	GEORGE WASHINGTON COPP NOBLE, A.M.
1873	RALPH WALDO EMERSON, LL.D.
	HENRY LEE, A.M.
	FRANCIS EDWARD PARKER, LL.B.
	JAMES FREEMAN CLARKE, D.D.
	GEORGE FRISBIE HOAR, LL.B.
1874	EBENEZER ROCKWOOD HOAR, LL.D.
	THEODORE LYMAN, A.B., S.B.
	SAMUEL ABBOTT GREEN, M.D.
	GEORGE OTIS SHATTUCK, LL.B.
	_____, _____.
	_____, _____, <i>Secretary.</i>

---

### OFFICERS OF INSTRUCTION AND GOVERNMENT.\*

	RESIDENCE.†
CHARLES WILLIAM ELIOT, LL.D., PRESIDENT,	17 Quincy St.
EMORY WASHBURN, LL.D., <i>Bussey Professor of Law,</i>	28 Quincy St.
FREDERICK HENRY HEDGE, D.D., <i>Professor of German and of Ecclesiastical History,</i>	48 North Av.
JOHN BARNARD SWETT JACKSON, M.D., <i>Shattuck Professor of Morbid Anatomy, and Curator of the Anatomical Museum,</i>	89 Charles St., Boston.
JOHN LANGDON SIBLEY, A.M., <i>Librarian,</i>	9 Phillips Pl.
ANDREW PRESTON PEABODY, D.D., LL.D., <i>Preacher to the University, and Plummer Professor of Christian Morals,</i>	11 Quincy St.
OLIVER STEARNS, D.D., <i>Parkman Professor of Theology, and Dean of the Divinity Faculty,</i>	12 Kirkland Pl.
_____, <i>Hollis Professor of Divinity.</i>	
OLIVER WENDELL HOLMES, M.D., <i>Parkman Professor of Anatomy,</i>	296 Beacon St., Boston.
BENJAMIN PEIRCE, LL.D., <i>Perkins Professor of Astronomy and Mathematics,</i>	4 Kirkland Pl.

\* Arranged, with the exception of the President, on the basis of collegiate seniority.

† For Abbreviations see page 10. The residence is in Cambridge, unless otherwise stated. No residence is given if the officer is absent for the year.

- ASA GRAY, LL.D., *Fisher Professor of Natural History*, Botanic Garden.  
 THOMAS MOTLEY, A.M., *Instructor in Farming*, Jamaica Plain.  
 FRANCIS BOWEN, A.M., *Alford Professor of Natural Religion, Moral Philosophy, and Civil Polity*, 9 Follen St.  
 JOSEPH LOVERING, A.M., *Hollis Professor of Mathematics and Natural Philosophy*, 38 Kirkland St.  
 EVANGELINUS APOSTOLIDES SOPHOCLES, LL.D., *University Professor of Ancient, Byzantine, and Modern Greek*, H'y 8.  
 HENRY WARREN TORREY, A.M., *McLean Professor of Ancient and Modern History*, 20 Oxford St.  
 ——— ———, *Hersey Professor of Anatomy*.  
 HENRY JACOB BIGELOW, M.D., *Professor of Surgery*, 52 Beacon St., Boston.  
 JOHN EUGENE TYLER, M.D., *Professor of Mental Diseases*, 7 Newbury St., Boston.  
 HENRY LAWRENCE EUSTIS, A.M., *Professor of Engineering, and Dean of the Lawrence Scientific Faculty*, 29 Kirkland St.  
 JAMES RUSSELL LOWELL, D.C.L., LL.D., *Smith Professor of the French and Spanish Languages and Literatures, and Professor of Belles-Lettres*, Elmwood Av.  
 JOSIAH DWIGHT WHITNEY, LL.D., *Sturgis Hooper Professor of Geology, and Dean of the Mining Faculty*.  
 EZRA ABBOT, D.D., LL.D., *Bussey Professor of New Testament Criticism and Interpretation*, 28 Berkeley St.  
 STACY BAXTER, *Professor of Elocution*, 13 Tremont Row, Boston.  
 CHARLES EDWARD BUCKINGHAM, M.D., *Professor of Obstetrics and Medical Jurisprudence*, 58 Worcester St., Boston.  
 HERMANN AUGUST HAGEN, M.D., PH.D., *Professor of Entomology*, 7 Putnam Av.  
 FRANCIS MINOT, M.D., *Hersey Professor of the Theory and Practice of Physic*, 7 Charles St., Boston.  
 WOLCOTT GIBBS, M.D., *Rumford Professor and Lecturer on the Application of Science to the Useful Arts*, 99 Mt. Vernon St., Boston.  
 DANIEL DENISON SLADE, M.D., *Professor of Applied Zoology*, Chestnut Hill.  
 JOHN PHILLIPS REYNOLDS, M.D., *Instructor in Obstetrics*, 7 Park Sq., Boston.  
 FRANCIS JAMES CHILD, PH.D., *Boylston Professor of Rhetoric and Oratory*, 67 Kirkland St.  
 CALVIN ELLIS, M.D., *Jackson Professor of Clinical Medicine, and Dean of the Medical Faculty*, 114 Boylston St., Boston.

14 OFFICERS OF INSTRUCTION AND GOVERNMENT.

- GEORGE MARTIN LANE, PH.D., *Pope Professor of Latin*, 81 Quincy St.
- JOSEPH WINLOCK, A.M., *Director of the Observatory, and Phillips Professor of Astronomy, and Professor of Geodesy*, Observatory.
- HENRY WILLARD WILLIAMS, M.D., *Professor of Ophthalmology*, 15 Arlington St., Boston.
- THOMAS HENDERSON CHANDLER, A.M., D.M.D., *Professor of Mechanical Dentistry, and Deun of the Dental Faculty*, 222 Tremont St., Boston.
- JOSIAH PARSONS COOKE, A.M., *Erving Professor of Chemistry and Mineralogy*, 25 Quincy St.
- EDWARD JAMES YOUNG, A.M., *Hancock Professor of Hebrew and other Oriental Languages, and Dexter Lecturer on Biblical Literature*, Raymond St.
- JOHN MCCRADY, A.B., *Professor of Zoölogy*, 61 Ellery Street
- CHARLES CARROLL EVERETT, D.D., *Bussey Professor of Theology*, 53 Garden St.
- CHARLES FRANKLIN DUNBAR, A.B., *Professor of Political Economy*, 14 Highland St.
- WILLIAM WATSON GOODWIN, PH.D., *Eliot Professor of Greek Literature*, 5 Follen St.
- CHRISTOPHER COLUMBUS LANGDELL, A.M., *Dane Professor of Law, and Dean of the Law Faculty*, H'ke 8.
- FERDINAND BÖCHER, A.M., *Professor of Modern Languages*, 12 Holyoke Pl.
- ADRIEN JACQUINOT, A.B., *Tutor in French*, 58 Mt. Auburn St.
- DAVID WILLIAMS CHEEVER, M.D., *Adjunct Professor of Clinical Surgery*, 1267 Washington St., Boston.
- EPHRAIM WHITMAN GURNEY, A.B., *University Professor of History, and Dean of the College Faculty*, 10 Fayerweather St.
- JAMES BRADLEY THAYER, LL.B., *Royall Professor of Law*, 87 Quincy St.
- ADAMS SHERMAN HILL, A.B., *Assistant Professor of Rhetoric*, 127 Mt. Auburn St.
- JAMES MILLS PEIRCE, A.M., *University Professor of Mathematics*, M. 47.
- JAMES CLARKE WHITE, M.D., *Professor of Dermatology*, 10 Park Sq., Boston.
- FRANCIS HUMPHREYS STORER, A.M., *Professor of Agricultural Chemistry, and Dean of the Bussey Institution*, Jamaica Plain.
- JAMES BRADSTREET GREENOUGH, A.B., *Assistant Professor of Latin*, 22 Appian Way.

- BENNETT HUBBARD NASH, A.M., *Assistant Professor of Italian and Spanish*, 62 Boylston St., Boston.  
 ———, *Professor of Topographical Engineering*.
- ARTHUR SEARLE, A.M., *Assistant in the Observatory*, 12 Madison St.
- GEORGE TUFTON MOFFATT, M.D., D.M.D., *Professor of Operative Dentistry*, Longwood.
- HENRY ADAMS, A.B., *Assistant Professor of History*, 3 Wadsworth House.
- WILLIAM AUGUSTUS ROGERS, A.M., *Assistant in the Observatory*, Observatory.
- ROBERT THAXTER EDES, M.D., *Assistant Professor of Materia Medica*, 872 Dudley St., Boston.
- WILLIAM EVERETT, A.M., *Assistant Professor of Latin*, Holmes House.
- CHARLES JOYCE WHITE, A.M., *Assistant Professor of Mathematics*, W. 36.
- JOHN KNOWLES PAINE, A.M., *Assistant Professor of Music*, 8 Frisbie Pl.
- GEORGE LINCOLN GOODALE, M.D., *Assistant Professor of Vegetable Physiology and Instructor in Botany*, 68 Sparks St.
- RAPHAEL PUMPELLY, *Professor of Mining*.  
 ———, *Professor of Dental Pathology and Therapeutics*.
- ISAAC BOWEN BARKER, A.M., *Tutor in German*, Little's Block 5.
- HENRY PICKERING BOWDITCH, M.D., *Assistant Professor of Physiology*, Jamaica Plain.
- WILLIAM COOK, A.B., *Instructor in German*, Linnæan St.
- WILLIAM HENRY PETTEE, A.M., *Assistant Professor of Mining*, 12 Oxford Street.
- FREDERIC IRVING KNIGHT, M.D., *Instructor in Auscultation, Percussion, and Laryngoscopy*, 113 Boylston St., Boston.
- CHARLES BURNHAM PORTER, M.D., *Demonstrator of Anatomy, and Instructor in Surgery*, 103 Boylston St., Boston.  
 ———, *Professor of Horticulture*.
- NATHANIEL SOUTHGATE SHALER, S.B., *Professor of Palæontology*, 13 Bow St.
- JOHN FISKE, A.M., *Assistant Librarian*, 4 Berkeley St.
- CLEMENT LAWRENCE SMITH, A.M., *Assistant Professor of Latin*, 10 Mason St.
- JOHN COLLINS WARREN, M.D., *Instructor in Surgery*, 58 Beacon St., Boston.
- LUTHER DIMMICK SHEPARD, D.D.S., *Adjunct Professor of Operative Dentistry*, 100 Boylston St., Boston.



- NATHANIEL WARE HAWES, *Assistant Professor of  
Operative Dentistry,* 12 Boylston St., Boston.
- REGINALD HEBER FITZ, *Assistant Professor of Patho-  
logical Anatomy,* 108 Boylston St.
- GEORGE HERBERT PALMER, A.M., *Assistant Pro-  
fessor of Philosophy, and Curator of the Gray Engravings,* 3 Garden St.
- FRANK EUSTACE ANDERSON, A.M., *Assistant Pro-  
fessor of Greek,* M. 7.
- GEORGE ANTHONY HILL, A.M., *Assistant Professor  
of Physics, and Registrar,* H'y 20.
- HENRY HARRIS AUBREY BEACH, M.D., *As-  
sistant Demonstrator of Anatomy,* 104 Boylston St., Boston.
- JOHN TROWBRIDGE, S.D., *Assistant Professor of  
Physics,* 13 Summer St.
- THOMAS DWIGHT, M.D., *Instructor in Histology,* 9 Charles St., Boston.
- WILLIAM GILSON FARLOW, M.D., *Assistant Pro-  
fessor of Botany,* Jamaica Plain.
- WILLIAM JAMES, M.D., *Instructor in Anatomy and  
Physiology,* 20 Quincy St.
- CHARLES LORING JACKSON, A.M., *Assistant Pro-  
fessor of Chemistry.*
- EDWARD STICKNEY WOOD, M.D., *Assistant Pro-  
fessor of Chemistry,* 12 Chauncy St.
- JAMES BARR AMES, A.M., *Assistant Professor of  
Law,* 69 Brattle St.
- JOHN WILLIAMS WHITE, A.M., *Tutor in Greek,* T. 54.
- HENRY BARKER HILL, A.M., *Assistant Professor of  
Chemistry,* Hammond St.
- MARSHMAN EDWARD WADSWORTH, A.M., *In-  
structor in Mathematics,* 44 Mt. Auburn St.
- CHARLES HERBERT MOORE, *Instructor in Free-  
Hand Drawing and Water Colors,* 19 Oxford St.
- GEORGE ALONZO BARTLETT, *Tutor in German,* H'ke 6.
- CHARLES ALBERT BRACKETT, D.M.D., *Instructor  
in Dental Therapeutics,* Newport, R. I.
- WILLIAM GARDNER HALE, A.B., *Tutor in Greek,* H'ke 33.
- WILLIAM HERBERT ROLLINS, D.M.D., *Instructor  
in Dental Pathology,* 1 Mt. Vernon St., Boston.
- HORACE EDWARD DEMING, A.B., *Proctor,* T. 29.
- WILLIAM BARKER HILLS, M.D., *Instructor in Chemistry,* Boston.
- HENRY NATHAN WHEELER, A.B., *Proctor,* T. 7.
- ALFRED WITHINGTON FIELD, A.B., *Proctor, and  
Assistant in the Chemical Laboratory,* H'y 11.

ALBERT LAMB LINCOLN, LL.B., <i>Proctor,</i>	S. 21.
WILLIAM CALEB LORING, LL.B., <i>Proctor,</i>	C. 5.
MOSES PERKINS WHITE, A.B., <i>Proctor,</i>	G. 24.
LEMUEL HOLLINGSWORTH BABCOCK, A.B., <i>Proctor,</i>	C. 56.
EDWARD DETRAZ BETTENS, A.B., <i>Proctor,</i>	H. 21.
JAMES GREENLEAF CROSWELL, A.B., <i>Tutor in</i> <i>Latin and Greek,</i>	H. 7.
WILLIAM BRADFORD HOMER DOWSE, A.B., <i>Proctor,</i>	G. 48.
THOMAS SCOTT MILLER, A.B., <i>Proctor,</i>	W. 7.
JOHN MURDOCH, A.B., <i>Proctor,</i>	G. 5.
JOHN FRANKLIN SIMMONS, A.B., <i>Proctor,</i>	S. 7.
HERBERT LEE HARDING, A.B., <i>Proctor,</i>	C. 17.
JOHN SIDNEY PATTON, A.B., <i>Proctor,</i>	M. 40.

## ANNUAL APPOINTMENTS FOR 1874-75.

## Harvard College.

CHARLES ELIOT NORTON, A.M., <i>Lecturer on the</i> <i>History of the Fine Arts as connected with Literature,</i>	Kirkland St.
CHAUNCEY WRIGHT, A.B., <i>Instructor in Physics,</i>	54 Brattle St.
WALTER FAXON, A.B., S.B., <i>Assistant in the Zoö-</i> <i>logical Laboratory,</i>	7 Sumner St.
FRANK AUSTIN GOOCH, A.B., <i>Assistant in the</i> <i>Chemical Laboratory,</i>	2 Mt. Auburn St.
JOHN FLEMING WHITE, S.B., <i>Assistant in the</i> <i>Chemical Laboratory,</i>	C. 34.
WILLIAM POWELL WILSON, <i>Assistant in Botany,</i>	21 North Av.
ERNEST YOUNG, A.B., <i>Instructor in History and</i> <i>Roman Law,</i>	Little's Block 13.
GEORGE OLIVER GEORGE COALE, A.B., <i>Assistant in the Physical Laboratory,</i>	M. 57.

## Lawrence Scientific School.

FRANCIS WINTHROP DEAN, <i>Instructor in Sur-</i> <i>veying and Drawing,</i>	727 Cambridge St.
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## Medical School.

FRANCIS BOOTT GREENOUGH, M.D., <i>Lecturer</i> <i>on Syphilis,</i>	17 Charles St., Boston.
EDWARD WIGGLESWORTH, M.D., <i>Lecturer on</i> <i>Syphilis,</i>	108 Boylston St., Boston.

## 18 OFFICERS OF INSTRUCTION AND GOVERNMENT.

- CLARENCE JOHN BLAKE, M.D., *Lecturer on*  
*Otology,* Hotel Berkeley, Boston.  
 GEORGE FREDERIC HOLMES MARKOE, *In-*  
*structor in Materia Medica,* 61 Warren St., Boston.  
 JOHN ORNE GREEN, M.D., *Lecturer on Otology,* 12 Beacon St., Boston.  
 JAMES READ CHADWICK, M.D., *Lecturer on*  
*Diseases of Women,* 102 Marlboro' St., Boston.  
 CHARLES PICKERING PUTNAM, M.D., *Lecturer*  
*on Diseases of Children,* 24 Marlboro' St., Boston.  
 JAMES JACKSON PUTNAM, M.D., *Lecturer on the*  
*Diseases of the Nervous System,* 6 Park Sq., Boston.

### Lecturers in the Dental School.

- EDWARD AUGUSTUS BOGUE, M.D., *on Dental*  
*Pathology and Therapeutics,* New York.  
 IRA ALLEN SALMON, D.D.S., *on Operative Den-*  
*tistry,* 670 Tremont St., Boston.

### University Lecturer.

- CHARLES CALLAHAN PERKINS, A.M., *on the*  
*History of Engraving,* 2 Walnut St., Boston.

## OTHER OFFICERS.

- ALLEN DANFORTH, A.M., *College Steward,* Cambridge.  
 JAMES WINTHROP HARRIS, *Secretary,* 22 Winthrop St.  
 AMORY THOMPSON GIBBS, A.M., *Assistant Secre-*  
*tary,* 30 Madison St.  
 JAMES JENNISON, A.M., *Librarian of the Divinity*  
*School,* 20 Craigie St.  
 CHARLES SPRAGUE SARGENT, A.B., *Director of*  
*the Arnold Arboretum and the Botanic Garden,* Brookline.  
 SERENO WATSON, A.M., *Curator of the Herbarium,* Botanic Garden.  
 JOHN HIMES ARNOLD, *Librarian of the Law School,*  
 62 Trowbridge St.  
 FRANCIS HENRY APPLETON, A.M., *Librarian and*  
*Curator of Collections at the Bussey Institution,*  
 26 Commonwealth Av., Boston.  
 ARTHUR GORHAM DAVIS, *Treasurer's Bookkeeper,*  
 70 Water St., Boston.  
 FREDERIC WILLIAM LISTER, *Superintendent of the*  
*Gymnasium,* Fresh Pond Lane.  
 JOHN POND FARMER, *Steward of Dining Hall,* 29 Mellen St.

# HARVARD COLLEGE.

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## COLLEGE FACULTY.

CHARLES W. ELIOT, LL.D., *President.*  
EPHRAIM W. GURNEY, A.B., *Dean, and Professor of History.*  
FREDERICK H. HEDGE, D.D., *Professor of German.*  
ANDREW P. PEABODY, D.D., LL.D., *Professor of Christian Morals.*  
BENJAMIN PEIRCE, LL.D., *Professor of Mathematics.*  
FRANCIS BOWEN, A.M., *Professor of Philosophy.*  
JOSEPH LOVERING, A.M., *Professor of Natural Philosophy.*  
EVANGELINUS A. SOPHOCLES, LL.D., *Professor of Greek.*  
HENRY W. TORREY, A.M., *Professor of History.*  
JAMES R. LOWELL, D.C.L., LL.D., *Professor of Belles-Lettres.*  
FRANCIS J. CHILD, PH. D., *Professor of Rhetoric.*  
GEORGE M. LANE, PH. D., *Professor of Latin.*  
JOSIAH P. COOKE, A.M., *Professor of Chemistry and Mineralogy.*  
CHARLES F. DUNBAR, A.B., *Professor of Political Economy.*  
WILLIAM W. GOODWIN, PH. D., *Professor of Greek.*  
FERDINAND BÔCHER, A.M., *Professor of Modern Languages.*  
ADRIEN JACQUINOT, A.B., *Tutor in French.*  
ADAMS S. HILL, A.B., *Assistant Professor of Rhetoric.*  
JAMES M. PEIRCE, A.M., *Professor of Mathematics.*  
JAMES B. GREENOUGH, A.B., *Assistant Professor of Latin.*  
HENRY ADAMS, A.B., *Assistant Professor of History.*  
WILLIAM EVERETT, A.M., *Assistant Professor of Latin.*  
CHARLES J. WHITE, A.M., *Assistant Professor of Mathematics.*  
JOHN K. PAINE, A.M., *Assistant Professor of Music.*  
ISAAC B. BARKER, A.M., *Tutor in German.*  
WILLIAM H. PETTEE, A.M., *Assistant Professor of Mining.*  
CLEMENT L. SMITH, A.M., *Assistant Professor of Latin.*  
GEORGE H. PALMER, A.M., *Assistant Professor of Philosophy.*  
FRANK E. ANDERSON, A.M., *Assistant Professor of Greek.*  
GEORGE A. HILL, A.M., *Assistant Professor of Physics, and Registrar.*  
JOHN TROWBRIDGE, S.D., *Assistant Professor of Physics.*  
CHARLES L. JACKSON, A.M., *Assistant Professor of Chemistry.*  
JOHN W. WHITE, A.M., *Tutor in Greek.*  
HENRY B. HILL, A.M., *Assistant Professor of Chemistry.*  
GEORGE A. BARTLETT, *Tutor in German.*  
WILLIAM G. HALE, A.B., *Tutor in Greek.*  
JAMES G. CROSWELL, A.B., *Tutor in Latin and Greek.*  
ERNEST YOUNG, A.B., *Instructor in History and Roman Law.*

## PARIETAL COMMITTEE

GEORGE A. HILL, A.M., <i>Chairman</i> ,	H'y 20.
EVANGELINUS A. SOPHOCLES, LL.D.,	H'y 3.
CHARLES J. WHITE, A.M.,	W. 36.
ISAAC B. BARKER, A.M.,	Little's Block 5.
FRANK E. ANDERSON, A.M.,	M. 7.
JOHN W. WHITE, A.M.,	T. 54.
GEORGE A. BARTLETT,	H'ke 6.
WILLIAM G. HALE, A.B.,	H'ke 33.
HORACE E. DEMING, A.B.,	T. 29.
HENRY N. WHEELER, A.B.,	T. 7.
ALFRED W. FIELD, A.B.,	H'y 11.
ALBERT L. LINCOLN, LL.B.,	S. 21.
WILLIAM C. LORING, LL.B.,	C. 5.
MOSES P. WHITE, A.B.,	G. 24.
LEMUEL H. BABCOCK, A.B.,	C. 56.
EDWARD D. BETTENS, A.B.,	H. 21.
JAMES G. CROSWELL, A.B.,	H. 7.
WILLIAM B. H. DOWSE, A.B.,	G. 43.
THOMAS S. MILLER, A.B.,	W. 7.
JOHN MURDOCH, A.B.,	G. 5.
JOHN F. SIMMONS, A.B.,	S. 7.
ERNEST YOUNG, A.B.,	Little's Block 13.
HERBERT L. HARDING, A.B.,	C. 17.
JOHN S. PATTON, A.B.,	M. 40.

## UNDERGRADUATES.\*

### SENIOR CLASS.

NAME.	RESIDENCE.	ROOM.
Alger, Alpheus Brown,	Cambridge,	H'y 22.
Appleton, Francis Randall,	New York, N. Y.,	H'y 21.
Appleton, George Swett,	New York, N. Y.,	H'ke 5.
Appleton, John Henry,	Cambridge,	67 Dana St.
Bacon, Gorham,	New York, N. Y.,	W. 8.
Bacon, Jonas Edward,	Woburn,	C. 3.
Baldwin, Edward David,	Le Roy, N. Y.,	T. 5.
Barrington, Arthur Henry,	Woburn,	C. 3.
Barstow, Charles Fanning,	Boston,	410 Harvard St.
Bartlett, Frederick Carew Smythe,	New Bedford,	G. 7.
Baxter, Joseph Nickerson,	Boston,	H'y 10.
Belmont, August,	New York, N. Y.,	42 Brattle St.
Benton, Edward Raymond,	Brookline,	G. 50.
Bird, George Hiram,	Cambridgeport,	T. 5.
Bowditch, Vincent Yardley,	Boston,	W. 46.
Briggs, LeBaron Russell,	Cambridge,	61 Kirkland St.
Broughton, Henry White,	Jamaica Plain,	S. 28.
Brown, George Willard,	Lowell,	C. 29.
Browne, Henry Glover,	Columbus, Ga.,	5 Wadsworth House.
Buck, Henry Hall,	Boston,	G. 41.
Bullard, William Norton,	Boston,	W. 4.
Burgess, Sidney Williams,	Boston,	16 Dunster St.
Butler, Paul,	Lowell,	H'y 22.
Campbell, William Taylor,	Cambridge,	16 Mt. Auburn St.
Canfield, George Folger,	New York, N. Y.,	M. 14.
Carney, Edwin LeRoy,	Leavenworth, Kansas,	W. 42.
Carter, Frank,	North Woburn,	C. 9.
Clark, Lester Williams,	New York, N. Y.,	G. 4.
Coffin, Charles Winthrop,	West Roxbury,	T. 36.

\* For abbreviations see page 10.

Comee, Frederic Robbins,	Cambridgeport,	15 Lee St.
Craig, John Woodworth,	No. Easton, N. Y.,	M. 33.
Croswell, Simon Greenleaf,	Cambridge,	G. 26.
Curtis, Benjamin Robbins,	Boston,	W. 10.
Cutler, Walter Salisbury,	Albany, N. Y.,	M. 46.
Dana, James,	Charlestown,	M. 25.
Draper, John Brazier,	Cambridge,	21 Craigie St.
Dumaresq, Francis,	Boston,	W. 43.
Dyer, Charles Henry,	Hyde Park,	T. 3.
Earle, Edward,	Worcester,	T. 11.
Eaton, Frank Herbert,	Kentville, N. S.,	4 Holyoke St.
Elliot, Edward Pearson,	Somerville,	T. 51.
Ellis, Arthur Blake,	Boston,	M. 35.
Emerson, Ellius Albert,	Haverhill,	S. 11.
Emerson, William Carroll,	Haverhill,	S. 11.
Faucon, Gorham Palfrey,	Milton,	G. 10.
Felton, Thomas Cary,	Cambridge,	W. 43.
Fenollosa, William Silsbee,	Salem,	G. 36.
Fewkes, Jesse Walter,	Newton,	C. 50.
Fish, Frederick Perry,	Taunton,	G. 30.
Fiske, Andrew,	Weston,	M. 42.
Flint, Albert Stowell,	Salem,	G. 45.
Forest, William Edward, S.B. (Univ. of Vermont),	Winooski, Vt.,	D. 38.
Foster, William Russell,	Portsmouth, N. H.,	H. 25.
Foulkes, Franklin Pierce,	Toledo, O.,	H'ke 29.
Frothingham, Nathaniel Langdon,	Boston,	M. 42.
Gaff, James Wade,	Cincinnati, O.,	H'y 12.
Gaminans, George Gordon,	Newton Centre,	T. 35.
Gerrish, Frank Scott,	Portland, Me.,	G. 13.
Gould, Frederic Saltonstall,	New York, N. Y.,	H'y 14.
Gray, Reginald,	Boston,	G. 40.
Griswold, William McCrillis,	Bangor, Me.,	T. 28.
Gummere, Francis Barton, A.B. (Haverford Coll.),	Philadelphia, Pa.,	6 Mason St.
Ham, Frederick Joseph,	Boston Highlands,	H'y 10.
Hancox, Albert Swan,	Springfield,	W. 28.
Hart, Nathaniel Stow,	Boston Highlands,	T. 6.
Hartwell, Walker,	Cincinnati, O.,	H'y 12.
Hemenway, Augustus,	Boston,	5 Linden St.
Hobart, Edward Ellis,	Bridgewater,	W. 25.
Hobart, George Burnap,	East Bridgewater,	M. 44.
Hodge, James Albert,	Springfield,	M. 33.

Holcombe, John Walker,	<i>La Porte, Ind.,</i>	4 Holyoke St.
Holman, William Henry,	<i>Newton,</i>	T. 51.
Hooper, Franklin William,	<i>Walpole, N. H.,</i>	W. 24.
Hooper, Sewall Henry,	<i>Boston,</i>	G. 23.
Hunnewell, Henry Sargent,	<i>Boston,</i>	W. 17.
Huntington, James Otis Sargent,	<i>Syracuse, N. Y.,</i>	W. 11.
Irving, George,	<i>Danville, Pa.,</i>	60 Brattle St.
Jeffries, Walter Lloyd,	<i>Boston,</i>	16 Winthrop St.
Jeffries, William Augustus,	<i>Boston,</i>	16 Winthrop St.
Johnson, Charles Rensselaer,	<i>Worcester,</i>	10 Plympton St.
Josephs, Lyman Colt,	<i>New Orleans, La.,</i>	H'ke 22.
Judson, Charles Ralph,	<i>Oswego, N. Y.,</i>	410 Harvard St.
Kent, John Fuller,	<i>West Newton,</i>	C. 11.
Kidner, Reuben,	<i>Boston,</i>	S. 28.
Kimball, Wallace Lowe,	<i>Bradford,</i>	T. 34.
Kimball, William Frederick,	<i>Chelsea,</i>	T. 34.
King, Frederick Gore,	<i>New York, N. Y.,</i>	52 Brattle St.
King, James Gedney,	<i>Salem,</i>	G. 8.
Kingsbury, Edward Martin,	<i>Grafton,</i>	W. 25.
Kingsbury, Herbert Dix,	<i>Grantville,</i>	T. 6.
Lane, John Chapin,	<i>Boston,</i>	G. 15.
Lawrence, Abbott,	<i>Boston,</i>	9 Linden St.
Lighthipe, Charles Francis,	<i>Orange, N. J.,</i>	H'ke 7.
Livermore, Joseph Perkins,	<i>Cambridge,</i>	24 North Av.
Lord, Charles Chandler,	<i>Boston,</i>	T. 28.
Lowery, Woodbury,	<i>New York, N. Y.,</i>	42 Brattle St.
Matthews, Nathan,	<i>Boston,</i>	M. 41.
Melville, William Harlow,	<i>Boston,</i>	G. 3.
Milton, Henry Slade,	<i>Weston,</i>	G. 21.
Mitchell, Clifford,	<i>Chicago, Ill.,</i>	W. 15.
Monks, George Howard,	<i>Boston,</i>	G. 46.
Montague, Richard,	<i>Westborough,</i>	G. 35.
Morgan, Joseph Dudley,	<i>New York, N. Y.,</i>	5 Wadsworth House.
Norcross, Grenville Howland,	<i>Boston,</i>	M. 24.
O'Callaghan, James Sullivan,	<i>Salem,</i>	S. 6.
Osgood, Edmund Quincy Sewall,	<i>Cohasset,</i>	C. 67.
Pease, Theodore Claudius,	<i>Somers, Conn.,</i>	W. 28.
Perry, Edward Miles,	<i>New Bedford,</i>	Little's Block 8
Phelps, William Bigelow,	<i>Boston,</i>	G. 2.
Plimpton, Lewis Henry,	<i>Walpole,</i>	G. 34.
Porter, William Lawrence,	<i>New York, N. Y.,</i>	404 Harvard St.
Post, Morgan Gibbes,	<i>New York, N. Y.,</i>	H'ke 9.
Poultney, Evan,	<i>Baltimore, Md.,</i>	H'ke 28.



Preble, Henry,	<i>Portland, Me.,</i>	62 Brattle St.
Preble, William Pitt,	<i>Portland, Me.,</i>	62 Brattle St.
Prince, Morton Henry,	<i>Boston,</i>	M. 35.
Raymond, Manley Amaden,	<i>Concord, N. H.,</i>	C. 51.
Reed, Warren Augustus,	<i>East Boston,</i>	T. 3.
Richardson, Homer Bartlett,	<i>Boston,</i>	Little's Block 15.
Rivers, George Robert Russell,	<i>Boston,</i>	G. 27.
Rix, Frank Reader,	<i>Lowell,</i>	C. 29.
Ross, Denman Waldo,	<i>Cambridge,</i>	24 Craigie St.
Sampson, Alden, A.B. ( <i>Haverford</i> <i>Coll.</i> ),	<i>New York, N. Y.,</i>	T. 15.
Sears, Frederic Richard,	<i>Boston,</i>	9 Linden St.
Secor, Thomas Ely,	<i>New York, N. Y.,</i>	H'y 28.
Shaw, Francis,	<i>Boston,</i>	W. 16.
Silsbee, Arthur Boardman,	<i>Boston,</i>	W. 32.
Smith, Hamilton Irving,	<i>East Boston,</i>	M. 25.
Stone, Nathaniel Hathaway,	<i>New Bedford,</i>	W. 10.
Stowe, Charles Edward,	<i>Hartford, Conn.,</i>	Dolton's Block 17.
Sturgis, Francis Shaw,	<i>Boston,</i>	W. 39.
Szemelényi, Ernest, M. E.,	<i>Baltimore, Md.,</i>	M. 48.
Taylor, Nelson,	<i>New York, N. Y.,</i>	M. 14.
Taylor, Thomas Fenton,	<i>Brooklyn, N. Y.,</i>	G. 6.
Thayer, Albert Smith,	<i>Worcester,</i>	M. 45.
Thayer, Hollis,	<i>Boston,</i>	G. 42.
Tomes, Charles Alexander,	<i>New York, N. Y.,</i>	H'ke 5.
Townsend, William Wilder,	<i>Washington, D. C.,</i>	C. 23.
Van Duzer, Henry Sayre,	<i>Newburgh, N. Y.,</i>	Little's Block 14.
Wadsworth, William Henry,	<i>Maysville, Ky.,</i>	30 Mt. Auburn St.
Walton, George Lincoln,	<i>Westfield,</i>	W. 15.
Warren, Samuel Dennis,	<i>Boston,</i>	Little's Block 19.
Watson, Frank Sedgwick,	<i>Milton,</i>	W. 33.
Wenzell, Henry Burleigh,	<i>Cambridge,</i>	G. 26.
Wetmore, Charles Whitman,	<i>Marquette, Mich.,</i>	W. 11.
Wilby, Joseph,	<i>Cincinnati, O.,</i>	S. 12.
Williams, Harold,	<i>Boston,</i>	W. 18.
Williamson, William Henry,	<i>Cincinnati, O.,</i>	S. 12.
Willson, Edmund Russell,	<i>Salem,</i>	M. 27.
Wood, Charles James,	<i>Cleveland, O.,</i>	W. 54.
Woodman, Walter,	<i>Cambridge,</i>	9 Kirkland Pl.
Young, George Frederick,	<i>Lanesville,</i>	C. 18.

JUNIOR CLASS.

NAME.	RESIDENCE.	ROOM.
Abercrombie, Daniel Webster,	Montgomery, Ala.,	28 Brattle Sq.
Amory, Harcourt,	Brookline,	M. 19.
Andrews, Walter Scott,	New York, N. Y.,	Little's Block 2.
Atkinson, William Herbert,	Cambridge,	10 Appian Way.
Bacon, Daniel Carpenter,	Jamaica Plain,	M. 43.
Baldwin, John Richard,	Lynn,	C. 10.
Barnes, Thurlow Weed,	Albany, N. Y.,	Dolton's Block 11.
Barrett, Frank Wheeler,	Concord,	G. 39.
Barrows, Charles Henry,	Springfield,	H. 9.
Bell, Charles John,	Somerville,	W. 19.
Bennett, Marcus Percival,	Cambridge,	W. 30.
Berry, John King,	Boston Highlands,	H. 8.
Bicknell, Edward,	Boston,	W. 51.
Black, Samuel McCully, A.B. (Acadia Coll.),	Amherst, N. S.,	4 Holyoke St.
Blandy, Frederick Addison,	Zanesville, O.,	W. 88.
Blandy, Henry Johnson,	Zanesville, O.,	W. 88.
Bolan, Joel Carlton,	Charlestown,	S. 8.
Botume, John Franklin,	Stoneham,	T. 46.
Bowditch, Alfred,	Jamaica Plain,	M. 37.
Boynton, William Edmund,	Winchester,	H'ke 18.
Bradford, George Hillard,	Boston Highlands,	W. 45.
Bradley, Robert Stow,	Boston,	M. 5.
Bradley, William Mason,	Bucksport, Me.,	H. 23.
Brown, Harry Hobart,	Chester, Pa.,	S. 10.
Brownlow, William Albert,	Cambridgeport,	C. 15.
Bullard, James Hovey,	Holliston,	M. 56.
Burbank, William Harry,	Cambridge,	C. 15.
Burnham, Frank Wesley,	Cambridge,	351 Harvard St.
Chapin, Frank Woodruff,	Erie, Pa.,	S. 8.
Chase, Frank Eugene,	Boston,	M. 9.
Chase, William Leverett,	Brookline,	W. 41.
Cleaves, James Edwin,	Medford,	H. 19.
Clymer, William Branford Shubrick,	Washington, D.C.,	M. 37.
Collins, Walter Stow,	Cleveland, O.,	T. 49.
Culbreth, Richard Smith,	Smyrna, Del.,	25 Holyoke St.
Cumming, George Miller,	Pottsville, Pa.,	W. 14.
Curtis, Ralph Wormeley,	Boston,	52 Brattle St.
Davis, Simon,	Charlestown,	T. 31.
Davis, William,	Plymouth,	H'y 8.

Dickinson, Charles Albert,	<i>Cambridge,</i>	8 Ellery St.
Drew, Frank Haynes,	<i>Boston,</i>	Dolton's Block 4.
DuBois, Loren Griswold,	<i>New York, N. Y.,</i>	W. 34.
Duff, William Frederic,	<i>Jamaica Plain,</i>	W. 23.
Dyer, Willard Knowlton,	<i>Boston,</i>	W. 48.
Eaton, Adoniram Judson, A.B. ( <i>Acadia Coll.</i> ),	<i>Granville, N. S.,</i>	25 Holyoke St.
Eddy, Arthur Stearns,	<i>East Somerville,</i>	East Somerville.
Eldridge, George Homans,	<i>Boston,</i>	T. 46.
Ernst, Harold Clarence,	<i>Jamaica Plain,</i>	W. 5.
Finck, Henry Theophilus,	<i>Portland, Oregon,</i>	H. 18.
Fisher, Samuel Tucker,	<i>Canton,</i>	G. 38.
Flint, James Henry,	<i>Middleton,</i>	C. 42.
Gaff, Thomas Trueman,	<i>Cincinnati, O.,</i>	H'ke 26.
Gardiner, Robert Hallowell,	<i>Boston,</i>	H. 15.
Giles, Jabez Edward,	<i>Rockport,</i>	19 Church St.
Gopsill, John Garretson,	<i>Jersey City, N. J.,</i>	H'ke 19.
Gove, William Henry,	<i>Lynn,</i>	H. 1.
Grandin, Egbert Henry,	<i>Mobile, Ala.,</i>	M. 28.
Green, Frederick Lewis,	<i>Ashfield,</i>	M. 55.
Green, George Walton,	<i>Sing Sing, N. Y.,</i>	W. 37.
Green, Herbert,	<i>Brooklyn, N. Y.,</i>	W. 20.
Guild, Robert Wheaton,	<i>West Roxbury,</i>	H'y 9.
Hall, Edward Cunningham,	<i>Kingston,</i>	H'y 8.
Harding, Emor Herbert,	<i>Boston,</i>	W. 37.
Harris, Azariah Boody,	<i>Springfield,</i>	H'ke 31.
Harrison, Edmond Pitts,	<i>Cincinnati, O.,</i>	H'ke 4.
Hasbrouck, Roe,	<i>Newburgh, N. Y.,</i>	
Hastings, Edmund Trowbridge,	<i>Medford,</i>	M. 8.
Hinkley, Holmes,	<i>Boston,</i>	G. 28.
Hoar, David Blakely,	<i>Brookline,</i>	M. 20.
Hoar, Rockwood,	<i>Worcester,</i>	M. 58.
Hobson, Henry Dexter,	<i>Wiscasset, Me.,</i>	M. 23.
Holman, John Charles,	<i>Cambridge,</i>	H'ke 24.
Hooper, Horace Nathaniel,	<i>Boston,</i>	C. 22.
Isham, Charles,	<i>New York, N. Y.,</i>	Dolton's Block 6.
Ives, George Burnham,	<i>Salem,</i>	G. 20.
Jackson, Oscar Roland,	<i>Boston,</i>	W. 51.
Jacobs, George Edward,	<i>Boston,</i>	T. 24.
Jaques, Henry Percy,	<i>Boston,</i>	M. 15.
Jecko, Steven Henry,	<i>St. Louis, Mo.,</i>	H'ke 2.
Joy, Glidden Wood,	<i>Swampscott,</i>	T. 37.
Kendall, William Mitchell,	<i>Cambridgeport,</i>	123 Inman St.

Kerr, Samuel Wilson,	<i>Pittsburg, Pa.,</i>	M. 15.
Kidder, Frederic Henry,	<i>Medford,</i>	H. 19.
Kip, William Fargo,	<i>Buffalo, N. Y.,</i>	H'y 16.
Kittredge, Samuel Dana,	<i>Peekskill, N. Y.,</i>	M. 3.
Lee, Elliot Cabot,	<i>Boston,</i>	G. 44.
Lefavour, Edward Brown,	<i>Beverly,</i>	H. 8.
Leland, Willis Daniels,	<i>Boston,</i>	G. 12.
Livingood, Frank Shalter,	<i>Reading, Pa.,</i>	W. 35.
Long, George Ashley,	<i>Boston Highlands,</i>	W. 45.
Longfellow, Alexander Wadsworth,	<i>Portland, Me.,</i>	H'y 15.
Lowell, Francis Cabot,	<i>Cotuit Port,</i>	G. 16.
Lowell, Percival,	<i>Boston,</i>	9 Linden St.
Lufkin, Walter Emerson,	<i>Gulveston, Texas,</i>	H'y 16.
MacArthur, Frank,	<i>Washington, D. C.,</i>	M. 58.
McDuffie, Fred Clement,	<i>Taunton,</i>	W. 26.
McMartin, Daniel Cady,	<i>Wadiloup, Iowa,</i>	T. 25.
Manning, Leonard Jarvis,	<i>Baltimore, Md.,</i>	C. 62.
Marcou, Philippe Belknap,	<i>Cambridge,</i>	M. 20.
Mason, William,	<i>Taunton,</i>	H'ke 36.
Meeks, Octavius Warren,	<i>New York, N. Y.,</i>	M. 11.
Mills, Hiram Roberts,	<i>Lexington,</i>	T. 31.
Minot, Francis,	<i>West Roxbury,</i>	M. 19.
Moody, William Henry,	<i>Haverhill,</i>	H. 23.
Morgan, Frank Hatch,	<i>Le Roy, N. Y.,</i>	H'y 6.
Morris, William Radcliff,	<i>Derry, N. H.,</i>	T. 25.
Morse, William Russell,	<i>Charlestown,</i>	C. 16.
Newbury, Arthur St. John,	<i>Cleveland, O.,</i>	H'y 18.
Nickerson, George Augustus,	<i>Jamaica Plain,</i>	W. 1.
Olmsted, John Bartow,	<i>Le Roy, N. Y.,</i>	H'y 6.
Osgood, Howard Lawrence,	<i>Flushing, L. I.,</i>	T. 47.
Page, William Reynolds,	<i>Rutland, Vt.,</i>	W. 53.
Parsons, William Henry,	<i>Cambridge,</i>	378 Harvard St.
Peckham, Cyrus Tracy,	<i>Ledyard, Conn.,</i>	H. 20.
Peirce, Benjamin Osgood,	<i>Cambridge,</i>	418 Broadway.
Pine, George Stevenson,	<i>Philadelphia, Pa.,</i>	H. 8.
Plummer, Charles Warner,	<i>New Bedford,</i>	H'y 14.
Potter, Silas Allen,	<i>Boston Highlands,</i>	T. 12.
Richards, David Jay,	<i>E. Steuben, N. Y.,</i>	471 Broadway.
Richards, William Phillips,	<i>Cambridge,</i>	783 Cambridge St.
Riggs, William Corcoran,	<i>Paris, France,</i>	Little's Block 16.
Roman, James Dixon,	<i>Hagerstown, Md.,</i>	H'y 18.
Sargent, George Amory,	<i>Jamaica Plain,</i>	G. 32.
Sargent, Henry,	<i>Worcester,</i>	M. 53.

Seligman, David Theodore,	<i>New York, N. Y.,</i>	887 Harvard St.
Sherwood, Samuel,	<i>New York, N. Y.,</i>	M. 17.
Sleeper, Frank Henry,	<i>Cambridge,</i>	M. 23.
Smith, Lafayette Hoyt,	<i>San Francisco, Cal.,</i>	H. 14.
Stetson, Edward,	<i>Bangor, Me.,</i>	H'ke 36.
Stevens, Milan Fillmore,	<i>Charlestown,</i>	C. 16.
Stickney, Charles Wade,	<i>Chicago, Ill.,</i>	7 Waterhouse St.
Stiles, Sumner Burritt,	<i>Middleton,</i>	C. 42.
Stimson, Frederic Jesup,	<i>Dedham,</i>	H'y 9.
Strong, Charles Pratt,	<i>East Bridgewater,</i>	S. 26.
Talbot, Thomas Lincoln,	<i>Portland, Me.,</i>	H. 15.
Taylor, Nathan Augustus,	<i>Somerville,</i>	Somerville.
Thomas, Gardner,	<i>Orange, N. J.,</i>	
Thompson, Newell Aldrich,	<i>Boston,</i>	W. 47.
Thomsen, Alonzo Lilly,	<i>Baltimore, Md.,</i>	H'ke 30.
Thwing, Charles Franklin,	<i>Farmington, Me.,</i>	W. 9.
Twombly, Arthur Butler,	<i>Boston,</i>	W. 8.
Tyng, James Alexander,	<i>Cambridge,</i>	12 Mason St.
Ward, Frank Pemberton,	<i>Boston,</i>	52 Brattle St.
Ward, Samuel Gray,	<i>New York, N. Y.,</i>	Little's Block 14.
Ware, Charles Eliot,	<i>Fitchburg,</i>	H. 15.
Welch, James Edward,	<i>Worcester,</i>	H'ke 1.
Weld, William Fletcher,	<i>Boston,</i>	M. 43.
Wellman, Francis Lewis,	<i>Brookline,</i>	H'ke 12.
Wetherbee, Addison Herbert,	<i>Melrose,</i>	C. 41.
Wetherbee, John Elliott,	<i>Boston Highlands,</i>	H'ke 23.
Wheeler, Alfred Allison,	<i>San Francisco, Cal.,</i>	M. 21.
Wheeler, Kendrick,	<i>Stamford, Conn.,</i>	H'ke 20.
Wheelwright, Edmund March,	<i>Jamaica Plain,</i>	H'y 1.
Wheelwright, John Tyler,	<i>Jamaica Plain,</i>	H'y 1.
Wiggins, John,	<i>St. Louis, Mo.,</i>	H'ke 4.
Williams, Theodore Chickering,	<i>Boston Highlands,</i>	H. 3.
Winslow, John Flack,	<i>Cincinnati, O.,</i>	68 Mt. Auburn St.
Witherlee, Charles Bryant,	<i>Castine, Me.,</i>	C. 48.
Woodberry, George Edward,	<i>Beverly,</i>	

## SOPHOMORE CLASS.

NAME.	RESIDENCE.	ROOM.
Abbott, Grafton Sant Loe,	<i>Boston,</i>	10 Holyoke St.
Abeles, Edward,	<i>Leavenworth, Kansas,</i>	44 Brighton St.
Allen, Gardner Weld,	<i>Cambridge,</i>	G. 11.
Amory, Augustine Heard,	<i>Brookline,</i>	M. 50.
Babcock, David Marks,	<i>Spencer,</i>	C. 18.
Bacon, William Benjamin,	<i>Boston,</i>	H'ke 16.
Bailey, Benjamin Francis,	<i>Columbia, S. C.,</i>	M. 16.
Bailey, Hollis Russell,	<i>North Andover,</i>	H. 4.
Baldwin, Jacob Augustus,	<i>Brooklyn, N. Y.,</i>	Little's Block 1.
Barnes, Charles Maynard,	<i>Decatur, Ill.,</i>	M. 89.
Barton, Milton Homer,	<i>Cambridge,</i>	371 Harvard St.
Bates, Frank Andrews,	<i>New York, N. Y.,</i>	W. 2.
Bates, William Clinton,	<i>Hingham,</i>	C. 1.
Bird, Charles Sumner,	<i>East Walpole,</i>	W. 13.
Bond, Amos Lawrence,	<i>West Newton,</i>	M. 29.
Bourne, Jonathan,	<i>New Bedford,</i>	H'ke 15.
Bowser, Alexander Thomas,	<i>Cambridge,</i>	C. 60.
Brainerd, Frank,	<i>Portland, Conn.,</i>	T. 32.
Brett, John Quincy Adams,	<i>Malden,</i>	C. 55.
Brown, Frederic Tilden,	<i>New York, N. Y.,</i>	T. 32.
Browne, William Maynadier,	<i>Boston,</i>	H'ke 16.
Bruce, Edward Pierson,	<i>Salem,</i>	G. 51.
Bryce, Carroll Clare,	<i>Newport, R. I.,</i>	52 Brattle St.
Bull, Melville,	<i>Newport, R. I.,</i>	H'y 19.
Burr, Heman Merrick,	<i>Newton,</i>	H'y 17.
Butler, Henry Sigourney,	<i>Madison, Wis.,</i>	C. 48.
Butler, Sigourney,	<i>Quincy,</i>	Little's Block 20.
Byrne, James Nicholson,	<i>Springfield,</i>	S. 25.
Carney, Harry Canaday,	<i>Leavenworth, Kansas,</i>	W. 42.
Cate, Martin Luther,	<i>Cambridge,</i>	22 Concord Av.
Clary, Stedman Willard,	<i>Milton,</i>	H. 5.
Cobb, Charles Kane,	<i>Boston,</i>	H'y 5.
Colesworthy, William Gibson,	<i>Chelsea,</i>	W. 27.
Conlan, John,	<i>East Cambridge,</i>	H. 28.
Cotton, Henry Ward Beecher,	<i>Charlestown,</i>	S. 20.
Crosby, Matthew Lewis,	<i>Jamaica Plain,</i>	Little's Block 17.
Cunningham, Stanley,	<i>Boston,</i>	H'y 13.
Currier, Charles Gilman,	<i>Boston,</i>	G. 9.
Curtis, Nathaniel William,	<i>Boston,</i>	Little's Block 20.
Cushing, Hayward Warren,	<i>Boston,</i>	M. 54.

Cutler, Samuel Newton,	<i>East Somerville,</i>	C. 8.
Cutler, Walter Marshall,	<i>Boston,</i>	Little's Block 7.
Cutter, Edward Jones,	<i>Boston,</i>	M. 54.
Danforth, Henry Gold,	<i>Rochester, N.Y.,</i>	T. 56.
Davenport, William Church,	<i>Taunton,</i>	H'ke 18.
Davis, Samuel Warren,	<i>West Newton,</i>	M. 29.
Denny, Arthur Briggs,	<i>Boston,</i>	Little's Block 6.
Dimmock, George,	<i>Springfield,</i>	S. 1.
Doggett, Frederick Fobes,	<i>Arlington,</i>	C. 1.
Drake, Herbert Hamilton,	<i>New York, N.Y.,</i>	H'y 19.
DuFais, John Louis,	<i>New York, N.Y.,</i>	H'y 2.
Dunham, Howard Cary,	<i>Riverhead, N.Y.,</i>	S. 16.
Dwyer, Richard Joseph,	<i>Medford,</i>	C. 81.
Eaton, Charles Sedgwick,	<i>Yonkers, N.Y.,</i>	W. 12.
Eliot, Amory,	<i>Chicopee,</i>	M. 16.
Farnsworth, William,	<i>Boston,</i>	H'y 5
Fay, Henry Brigham,	<i>Bangor, Me.,</i>	C. 21.
Fessenden, Nathan Appleton,	<i>Fitchburg,</i>	H'ke 21.
Gardner, George Peabody,	<i>Boston,</i>	Little's Block 22.
Garrett, Francis Henry,	<i>Pottsville, Pa.,</i>	Dolton's Block 13.
Giles, George Lindall,	<i>Rockport,</i>	19 Church St.
Gilman, James Ward,	<i>Lowell,</i>	H. 28.
Gooding, Alfred,	<i>Brookline,</i>	H. 6.
Goodrich, Henry,	<i>Pecan Grove, La.,</i>	7 Summer St.
Goodwin, James Wells,	<i>Haverhill,</i>	S. 9.
Gray, Morris,	<i>Boston,</i>	T. 26.
Greenleaf, Robert Willard,	<i>Charlestown,</i>	H. 27.
Hapgood, William Frank,	<i>Worcester,</i>	W. 2.
Harriman, Nathan Harding,	<i>Prospect Ferry, Me.,</i>	19 Church St.
Harris, Robert Orr,	<i>East Bridgewater,</i>	T. 11.
Harwood, Herbert Joseph,	<i>Littleton,</i>	W. 81.
Hastings, Henry Baxter,	<i>Cambridge,</i>	60 Brattle St.
Hastings, Robert Paul,	<i>San Francisco, Cal.,</i>	W. 29.
Hatch, Frank Cornelius,	<i>Boston,</i>	T. 83.
Heminway, Truman,	<i>New Rochelle, N.Y.,</i>	H'ke 27.
Herrick, Edwin Hayden,	<i>New York, N.Y.,</i>	Little's Block 17.
Hills, George Wallingford,	<i>Newton,</i>	T. 9.
Hitchcock, James Ripley Wellman,	<i>Fitchburg,</i>	H. 12.
Hodges, William Dennison,	<i>Boston,</i>	W. 21.
Hosford, Isaac Bartholomew,	<i>Haverhill,</i>	M. 59.
Houghton, Henry Oscar,	<i>Cambridge,</i>	800 Main St.
Hovey, George Edward,	<i>Boston Highlands,</i>	M. 6.
Hudson, Henry Bright,	<i>Cambridgeport,</i>	38 Bigelow St.

Humason, William Lawrence,	<i>New Britain, Conn.,</i>	W. 40.
Hunt, Freeman,	<i>Brooklyn, N.Y.,</i>	104 Mt. Auburn St.
Huse, George Wood,	<i>Newburyport,</i>	C. 47.
Jayne, Anselm Helm,	<i>Brandon, Miss.,</i>	H. 10.
Jennison, Samuel Ellery,	<i>Boston,</i>	M. 2.
Johnson, Joseph French,	<i>Aurora, Ill.,</i>	D. 8.
Keneflick, Thomas William,	<i>Leominster,</i>	C. 25.
Keys, John Baker,	<i>Cincinnati, O.,</i>	W. 12.
Kidder, Henry Thomas,	<i>Boston,</i>	H'y 24.
Kimball, Elbridge Gerry,	<i>Boston,</i>	Dolton's Block 12.
Lamson, Gardner Swift,	<i>Winchester,</i>	T. 40.
Latham, Aaron Hobart,	<i>East Bridgewater,</i>	W. 22.
Leeds, Herbert Corey,	<i>Boston,</i>	H'y 13.
Legate, Burton John,	<i>Leominster,</i>	C. 52.
Leland, Samuel,	<i>Newton Lower Falls,</i>	C. 49.
LeMoyne, Francis Julius,	<i>Chicago, Ill.,</i>	H'ke 42.
Linzee, John Torrey,	<i>Boston,</i>	H'y 17.
Littlefield, George Abner,	<i>Plymouth, N. H.,</i>	
Lovering, Edwin Nathaniel,	<i>East Somerville,</i>	C. 8.
Lowell, Abbott Lawrence,	<i>Brookline,</i>	9 Linden St.
Lowell, John,	<i>Chestnut Hill,</i>	M. 2.
Lynde, Samuel Adams,	<i>Rock Island, Ill.,</i>	391 Harvard St.
Lyon, George,	<i>St. Joseph, Mo.,</i>	391 Harvard St.
Macauley, Thomas,	<i>Woodside, N. J.,</i>	T. 60.
McCleave, Johns,	<i>Cumberland, Md.,</i>	30 Mt. Auburn St.
McDowell, Henry Burden,	<i>New York, N.Y.,</i>	T. 55.
Martin, Edward Sandford,	<i>Auburn, N.Y.,</i>	W. 31.
Melledge, Robert Job,	<i>Cambridge,</i>	335 Harvard St.
Mercur, John Davis,	<i>Towanda, Pa.,</i>	M. 38.
Merriam, Edward Preston,	<i>North Leominster,</i>	C. 45.
Métivier, James,	<i>Cambridge,</i>	16 Shepard St.
Millett, Josiah Byron,	<i>East Bridgewater,</i>	G. 22.
Minot, Robert Sedgwick,	<i>Jamaica Plain,</i>	T. 42.
Morrell, George Dallas,	<i>Philadelphia, Pa.,</i>	H. 16.
Morse, Albert Gordon,	<i>Dorchester,</i>	M. 6.
Morse, Edward Leland,	<i>Boston,</i>	C. 65.
Nash, George Miner,	<i>Abington,</i>	T. 19.
O'Callaghan, Daniel John Mitchel,	<i>Salem,</i>	S. 6.
Ogden, George Barnewall,	<i>New York, N.Y.,</i>	W. 6.
Ogden, Gouverneur Morris,	<i>New York, N.Y.,</i>	W. 6.
Page, Parker Webster,	<i>Washington, D.C.,</i>	W. 22.
Parker, Edmund Morley,	<i>Cambridge,</i>	5 Craigie St.
Parker, Edward Everett,	<i>Salem,</i>	T. 18.



Parmenter, William Ellison,	<i>Arlington,</i>	H. 24.
Patton, Jacob Cansler,	<i>Morgantown, N.C.,</i>	M. 40.
Perrin, Arthur,	<i>Cambridge,</i>	37 Chauncy St.
Pierce, Edward Peter,	<i>Fitchburg,</i>	H'ke 39.
Pierce, Matthew Vassar,	<i>Boston,</i>	Little's Block 7.
Pierce, Quincy,	<i>Brookline,</i>	M. 31.
Pope, Edward Ritchie,	<i>New Bedford,</i>	T. 21.
Prior, Charles Edwin,	<i>Melrose,</i>	
Richardson, Clifford,	<i>Worcester,</i>	H'y 2.
Roberts, Walter Hill,	<i>Charlestown,</i>	C. 7.
Robinson, Harry William,	<i>Cambridge,</i>	53 Putnam Av.
Roby, Eben Willard,	<i>Brooklyn, N.Y.,</i>	M. 88.
Rollins, Frank Waldron,	<i>Boston,</i>	T. 19.
Rusk, Frank Thomas,	<i>St. Joseph, Mo.,</i>	H. 26.
Russell, William Eustis,	<i>Cambridge,</i>	H'y 7
Ryder, Godfrey,	<i>Medford,</i>	H. 26.
Sargent, Franklin Haven,	<i>Boston,</i>	T. 37.
Sauzade, Robert Sidoine,	<i>Jersey City, N.J.,</i>	H'ke 27.
Sawyer, George Augustus,	<i>Cambridge,</i>	S. 4.
Seamans, William Shepard,	<i>Exeter, N.H.,</i>	H'ke 45.
Sedgwick, Francis Edward,	<i>New York, N.Y.,</i>	G. 25.
Sherman, Thomas Foster,	<i>Boston,</i>	T. 17.
Shippen, Charles Carroll,	<i>Baltimore, Md.,</i>	H'ke 43.
Sigourney, Henry,	<i>Boston,</i>	T. 16.
Sloane, Thomas Morrison,	<i>Sandusky, O.,</i>	T. 53.
Smiley, William Henry,	<i>Melrose,</i>	C. 26.
Smith, Abbot Edes,	<i>Arlington,</i>	14 Kirkland Pl.
Smith, Daniel Elijah,	<i>Lanesville,</i>	C. 32.
Smith, Frank Webster,	<i>Lincoln,</i>	H. 5.
Sparhawk, Edward Epps,	<i>Boston,</i>	C. 2.
Sprague, Edmund Burke,	<i>Haverhill,</i>	S. 9.
Starr, Benjamin Charles,	<i>Cleveland, O.,</i>	C. 68.
Stetson, Joshua,	<i>Boston,</i>	5 Linden St.
Stiles, James Arthur,	<i>Fitchburg,</i>	H'ke 47.
Stiles, Maynard French,	<i>Tunbridge, Vt.,</i>	H'ke 47.
Stone, Dexter Lyman,	<i>Wilmington, Vt.,</i>	68 Mt. Auburn St.
Stringham, Washington Irving,	<i>Topeka, Kansas,</i>	S. 25.
Strobel, Edward Henry,	<i>Charleston, S.C.,</i>	H. 27.
Swift, Lindsay,	<i>Boston Highlands,</i>	26 Brattle Sq.
Swift, William Nye,	<i>New Bedford,</i>	T. 30.
Sykes, Gerrit Smith,	<i>Mercer, Pa.,</i>	C. 53.
Tallant, Robert,	<i>San Francisco, Cal.,</i>	T. 52.
Taylor, William Reuben,	<i>Jefferson, N.Y.,</i>	C. 30.

Thatcher, Henry Knox,	<i>Bangor, Me.,</i>	S. 22.
Thomas, Edward Fuller,	<i>Youngstown, O.,</i>	18 Wendell St.
Tiffany, Francis Buchanan,	<i>West Newton,</i>	W. 49.
Tillinghast, William Hopkins,	<i>New Bedford,</i>	T. 21.
Tower, Augustus Clifford,	<i>Lexington,</i>	Little's Block 6.
Tucker, Frederic Manning,	<i>New York, N. Y.,</i>	22 Concord Av.
Twitchell, George Pierce,	<i>Keene, N. H.,</i>	G. 52.
Twombly, William Lance Dow,	<i>Westfield,</i>	100 Mt. Auburn St.
Tyler, John Ford,	<i>Cambridge,</i>	11 Shepard St.
Underhill, Caleb Brooks,	<i>East Somerville,</i>	C. 37.
Underwood, Charles James,	<i>Boston,</i>	S. 24.
Upham, Henry,	<i>Brookline,</i>	H'y 24.
Wakefield, Alley Talbot,	<i>Cambridge,</i>	842 Main St.
Walker, James Wise,	<i>Jamaica Plain,</i>	T. 17.
Wallace, Herbert Ingalls,	<i>Fitchburg,</i>	H'ke 21.
Ward, George Curwin,	<i>Cambridge,</i>	49 Linnæan St.
Ware, Joseph Warren,	<i>Sherborn,</i>	S. 2.
Warren, Edward Winslow,	<i>Boston,</i>	M. 31.
Watson, Samuel Joseph,	<i>Paterson, N. J.,</i>	M. 39.
Welles, James Howard,	<i>Glastonbury, Conn.,</i>	M. 10.
Wellington, Edward,	<i>Waltham,</i>	134 Mt. Auburn St.
Wendell, Barrett,	<i>New York, N. Y.,</i>	Little's Block 8.
West, Edward Graeff,	<i>Exeter, N. H.,</i>	G. 37.
Wetmore, Sidney,	<i>Brookline,</i>	8 Holyoke St.
Wheeler, Frederick Gridley,	<i>Stamford, Conn.,</i>	H'ke 20.
Wheeler, Harold,	<i>San Francisco, Cal.,</i>	M. 21.
Wheeler, William Lang,	<i>Scarsdale, N. Y.,</i>	M. 36.
White, Joseph,	<i>Winchendon,</i>	C. 64.
Whiting, Harold,	<i>Boston Highlands,</i>	T. 8.
Whiting, William Austin,	<i>Boston,</i>	T. 43.
Whitney, Herbert Baker,	<i>Leominster,</i>	H'ke 45.
Wiley, Frederick Jackson,	<i>Detroit, Mich.,</i>	H'ke 38.
Williams, John Bertram,	<i>Cambridge,</i>	M. 49.
Willison, Jasper Nathaniel,	<i>Cumberland, Md.,</i>	30 Mt. Auburn St.
Woodman, Edward,	<i>Cambridge,</i>	H'y 7.
Woods, Andrew,	<i>Winchester,</i>	C. 44.
Worthington, Robert Hollister,	<i>Buffalo, N. Y.,</i>	25 Holyoke St.
Wright, John Russell,	<i>Brookline,</i>	H'ke 14.
Young, Reginald Heber,	<i>Cambridge,</i>	C. 59.

## FRESHMAN CLASS.

NAME.	RESIDENCE.	ROOM.
Adams, Charles Thornton,	<i>New York, N.Y.,</i>	M. 55.
Albert, Richard Seabrook,	<i>Baltimore, Md.,</i>	25 Holyoke St.
Allen, Andrew Hussey,	<i>Brooklyn, N.Y.,</i>	G. 48.
Allen, William Ethan,	<i>Worcester,</i>	410 Harvard St.
Allen, William Hall,	<i>Saybrook, Conn.,</i>	Little's Block 24.
Allen, Willis Boyd,	<i>Boston,</i>	T. 50.
Apthorp, Harrison Otis,	<i>Cambridge,</i>	17 Putnam Av.
Attwood, Francis Gilbert,	<i>Jamaica Plain,</i>	Little's Block 21.
Austin, Henry Willard,	<i>West Roxbury,</i>	M. 51.
Bacon, Edward Richardson,	<i>Chicago, Ill.,</i>	S. 19.
Bancroft, William Amos,	<i>Cambridge,</i>	Brattle Sq.
Batchelder, Charles Foster,	<i>Cambridge,</i>	7 Kirkland St.
Bennett, William Zebina,	<i>Montpelier, Vt.,</i>	C. 66.
Billier, Frederic Ogden de,	<i>Yonkers, N.Y.,</i>	M. 18.
Binney, Charles Chauncey,	<i>Philadelphia, Pa.,</i>	C. 46.
Blaine, Emmons,	<i>Augusta, Me.,</i>	H'ke 46.
Blair, Lafayette Gilbert,	<i>Kansas City, Mo.,</i>	C. 57.
Blodgett, Warren Kendall,	<i>Boston,</i>	16 Trowbridge St.
Bond, Nicolas Penniman,	<i>Baltimore, Md.,</i>	M. 18.
Boutelle, George Keely,	<i>Waterville, Me.,</i>	8 Mason St.
Bradish, Frank Eliot,	<i>Boston,</i>	D. 15.
Briggs, Charles Richard,	<i>Brookline,</i>	T. 62.
Brigham, Lincoln Forbes,	<i>Salem,</i>	T. 1.
Brown, Arthur Henry,	<i>East Princeton,</i>	C. 70.
Browne, George Henry,	<i>Waltham,</i>	D. 33.
Buck, Howard Mendenhall,	<i>Boston,</i>	H'ke 34.
Bullard, Stephen,	<i>Boston,</i>	Little's Block 18.
Burdett, Herbert Channing,	<i>Leominster,</i>	C. 52.
Burrill, Middleton Shoolbred,	<i>New York, N.Y.,</i>	48 Brattle St.
Butts, James Edward Perry,	<i>Geneva, N.Y.,</i>	26 Mt. Auburn St.
Catlin, Charles Abernethy,	<i>New York, N.Y.,</i>	1 Garden St.
Chamberlain, Eugene Tyler,	<i>Albany, N.Y.,</i>	Dolton's Block 18.
Chamberlayne, Charles Frederic,	<i>Cambridge,</i>	Sacramento St.
Channing, Edward Perkins,	<i>Boston,</i>	19 Church St.
Chapman, Charles Henry,	<i>Boston,</i>	10 Plympton St.
Cheney, George Locke,	<i>Essex, Conn.,</i>	G. 47.
Chickering, Charles Edward,	<i>Boston,</i>	M. 32.
Cobb, Edward Howard,	<i>Abington,</i>	S. 14.
Comey, Charles Rich,	<i>Cambridgeport,</i>	5 Pleasant Pl.
Cross, Charles Edward,	<i>Portland, Me.,</i>	48 Brattle St.

Curtis, Osborne Sargent,	<i>Boston,</i>	52 Brattle St.
Daniels, Charles,	<i>Grafton, Vt.,</i>	T. 14.
Dean, Louis Bailey,	<i>Taunton,</i>	M. 30.
Doane, Howard Freeman,	<i>Cambridge,</i>	14 Shepard St.
Dorr, Benjamin Humphrey,	<i>Boston,</i>	410 Harvard St.
Dunbar, Franklin Asaph,	<i>Cambridge,</i>	14 Highland St.
Dunham, Harrison,	<i>South Boston,</i>	4 Mt. Auburn St.
Dwinell, James Herbert,	<i>Winchester,</i>	T. 40.
Eaton, Harold Bayard,	<i>Boston,</i>	T. 67.
Ellicott, Edward Somerville,	<i>Jamaica Plain,</i>	Little's Block 21.
Elting, Irving,	<i>Poughkeepsie, N.Y.,</i>	158 Mt. Auburn St.
Ely, Philip Van Rensselaer,	<i>Marquette, Mich.,</i>	3 Linden St.
Emerson, George Estius,	<i>Haverhill,</i>	C. 27.
Eyre, Lincoln Lear,	<i>Newport, R. I.,</i>	102 Mt. Auburn St.
Fish, Charles Everett,	<i>Cotuit,</i>	T. 44.
Frank, Henry,	<i>Chicago, Ill.,</i>	727 Cambridge St.
Gay, Frederick Lewis,	<i>Boston,</i>	410 Harvard St.
Gleason, Zebina Allston,	<i>Westborough,</i>	H. 17.
Goldman, Henry,*	<i>New York, N.Y.,</i>	18 Putnam Av.
Goldmark, Henry,	<i>Brooklyn, N.Y.,</i>	T. 20.
Gowen, Caleb Emery,	<i>Boston,</i>	T. 65.
Guptill, Albert Brewer,	<i>Red Wing, Minn.,</i>	C. 70.
Gurnee, Augustus Coe,	<i>Irrington, N.Y.,</i>	Little's Block 23.
Hamilton, Charles Albert,	<i>Medford,</i>	S. 13.
Hancock, Lewis,	<i>Austin, Texas,</i>	T. 59.
Harding, Benjamin Fosdick,	<i>Exeter, N.H.,</i>	M. 26.
Harding, John Butterworth,	<i>Philadelphia, Pa.,</i>	H. 22.
Harrington, Charles,	<i>Salem,</i>	M. 34.
Hasbrouck, Melvin,	<i>Poughkeepsie, N.Y.,</i>	158 Mt. Auburn St.
Hastings, Edward Rogers,	<i>South Weymouth,</i>	10 Holyoke St.
Hay, Henry Clinton,	<i>Portland, Me.,</i>	S. 19.
Hewins, Parke Woodbury,	<i>Taunton,</i>	345 Harvard St.
Holmes, John Russell,	<i>Cincinnati, O.,</i>	378 Harvard St.
Homans, John,	<i>Boston,</i>	T. 23.
Houston, Frank Augustine,	<i>Somerville,</i>	M. 56.
Hubbard, Charles Wells,	<i>Boston,</i>	25 Holyoke St.
Hunt, Edward Browne,	<i>South Sudbury,</i>	26 Brattle Sq.
Iasigi, Augustus Dromel,	<i>Boston,</i>	Little's Block 4.
Jackson, Ernest,	<i>Boston,</i>	C. 38.
Johnson, Benjamin Newhall,	<i>East Saugus,</i>	H'ke 41.
Johnson, Edward Francis,	<i>Woburn,</i>	W. 52.
Jones, Arthur Mason,	<i>New York, N.Y.,</i>	H'ke 25.
Kelley, Webster,	<i>Boston,</i>	4 Mt. Auburn St.

Kendall, Frank Irving,	Woburn,	G. 81.
Kent, Frederic Cleaveland,	Brooklyn, N. Y.,	Little's Block 24.
Kessler, Walter,	Indianapolis, Ind.,	69½ Mt. Auburn St.
Knapp, Philip Coombs,	Lynn,	794 Main St.
Lanier, Nathan Ryno Smith,	Baltimore, Md.,	727 Cambridge St.
Lawrence, Rosewell Bigelow,	Medford,	S. 18.
LeMoynes, William Murray,	Chicago, Ill.,	H'ke 42.
Littauer, Lucius Nathan,	New York, N. Y.,	T. 65.
Lombard, Warren Plimpton,	West Newton,	W. 49.
Lord, Edward Oliver,	Somersworth, N. H.,	C. 21.
Loring, Augustus Peabody,	Beverly Farms,	T. 48.
Lucas, Clinton William,	Cambridge,	156 Mt. Auburn St.
MacFadon, Robert Dean,	Quincy, Ill.,	102 Mt. Auburn St.
McKaye, Henry Goodwin,	Cambridge,	H'ke 8.
Mason, Charles Jeremiah,	Boston,	52 Brattle St.
Mason, Harry White,	Newton Centre,	M. 60.
Mead, Julian Augustus,	West Acton,	M. 18.
Meinrath, Joseph,	Boston,	T. 68.
Mercur, James Watts,	Towanda, Pa.,	M. 22.
Miles, Jonas Michael,	Fitchburg,	T. 45.
Miller, William Starr,	New York, N. Y.,	M. 1
Mills, Isaac Bonney,	Boston,	Dolton's Block 7.
Mills, Ogden,	Millbrae, Cal.,	M. 12.
Montague, Henry Watmough,	Chelsea,	H. 2.
Moore, Charles,	Ypsilanti, Mich.,	T. 44.
Moore, Edward Cook,	Yonkers, N. Y.,	T. 22.
Morgan, Alfred Waterman,	New York, N. Y.,	H'ke 10.
Morison, John Holmes,	Baltimore, Md.,	G. 49.
Morse, Edwin Wilson,	Natick,	H. 22.
Morse, Herbert Floyd Willis,	Portland, Me.,	156 Mt. Auburn St.
Murdock, Frank Fuller,	Charlestown,	H. 18.
Murray, John Archibald,	New York, N. Y.,	T. 2.
Nash, George William,	Cambridgeport,	68 Pleasant St.
Nelson, Samuel Newell,	Milford,	C. 28.
Nichols, Edgar Hamilton,	Saco, Me.,	63 Kirkland St.
Nichols, John Loring,	Somerville,	Somerville.
O'Connor, John,	Indianapolis, Ind.,	H'ke 41.
Oliver, William John,	East Cambridge,	41 Sacramento St.
Osgood, Henry Blanchard,	Boston Highlands,	T. 61.
Otis, Harrison Gray,	Boston,	26 Holyoke St.
Otis, Henry Sharwood,	Exeter, N. H.,	Dolton's Block 16.
Otis, William Sigourney,	Boston,	25 Holyoke St.
Page, Henry Deeley,	Boston,	T. 61.

Page, William Elias,	<i>Boston,</i>	M. 51.
Parker, Herbert,	<i>Lancaster,</i>	14 Appian Way.
Parsons, Gustavus Swan,	<i>Columbus, O.,</i>	T. 68.
Patterson, Robert Fletcher,	<i>Stogestown, Pa.,</i>	D. 28.
Paullin, Daniel Edward,	<i>Quincy, Ill.,</i>	T. 57.
Perry, Arthur Eben,	<i>Lakeville,</i>	G. 38.
Phillips, William Magruder,	<i>Leavenworth, Kansas,</i>	6 Mt. Auburn St.
Pickering, John,	<i>Salem,</i>	13 Wadsworth House.
Pinney, George Miller,	<i>Oakland, Cal.,</i>	12 Story St.
Post, Philip Allen,	<i>New York, N.Y.,</i>	H'ke 35.
Potter, William Henry,	<i>Boston Highlands,</i>	T. 12.
Powel, Robert Johnston Hare,	<i>Newport, R. I.,</i>	1 Garden St.
Pratt, George Winthrop,	<i>East Middleborough,</i>	8 Ellery St.
Preston, George Hyde,	<i>Buffalo, N.Y.,</i>	C. 61.
Raymer, George Sharp,	<i>Wilton, N.Y.,</i>	Dolton's Block 1.
Reed, Edward Prescott,	<i>Stow,</i>	12 Story St.
Richards, Edward Osgood,	<i>New York, N.Y.,</i>	4 Garden St.
Roberts, Herbert Howard,	<i>Charlestown,</i>	C. 7.
Robinson, Warren Merton,	<i>Boston Highlands,</i>	C. 28.
Rogers, Alfred Harrison,	<i>Leavenworth, Kansas,</i>	6 Mt. Auburn St.
Sachs, Barney Joseph,	<i>New York, N.Y.,</i>	18 Putnam Av.
Saltonstall, Gurdon,	<i>Boston,</i>	25 Holyoke St.
Sauzade, Thomas Jordan,	<i>Jersey City, N. J.,</i>	G. 29.
Schaefer, William Henry,	<i>Baltimore, Md.,</i>	G. 19.
Shea, John Cornelius,	<i>Cambridge,</i>	19 Bank St.
Shepherd, Samuel,	<i>Rantoul, Ill.,</i>	5 Linden St.
Sherwood, Arthur Murray,	<i>New York, N.Y.,</i>	M. 17.
Shorey, Paul,	<i>Chicago, Ill.,</i>	T. 18.
Sibley, Edwin Day,	<i>Charlestown,</i>	14 Shepard St.
Slade, James Fulton,	<i>New York, N.Y.,</i>	H'ke 32.
Smith, Herbert,	<i>Philadelphia, Pa.,</i>	100 Mt. Auburn St.
Somerby, Samuel Ellsworth,	<i>Boston,</i>	T. 4.
Spencer, Alfred Warner,	<i>Boston,</i>	410 Harvard St.
Stackpole, Edward,	<i>Boston,</i>	T. 67.
Stearns, George Hermon,	<i>Richmond, Me.,</i>	S. 14.
Stearns, William Oakman,	<i>Newton Centre,</i>	M. 60.
Stimpson, Theodore Fiske,	<i>Boston,</i>	10 Holyoke St.
Sturgis, Russell,	<i>Boston,</i>	H'ke 44.
Sturtevant George Eliab,	<i>Charlestown,</i>	H. 18.
Sullivan, William,	<i>Salem,</i>	C. 4.
Taggart, David Arthur,	<i>Goffstown, N. H.,</i>	58 Trowbridge St
Tappan, Herbert,	<i>Boston,</i>	10 Holyoke St.
Taylor, Frederic Weston,	<i>East Cambridge,</i>	S. 23.

Taylor, Henry Osborn,	<i>New York, N. Y.,</i>	25 Holyoke St.
Teschemacher, Hubert Engelbert,	<i>San Francisco, Cal.,</i>	M. 26.
Thayer, Frederick Winthrop,	<i>Belmont,</i>	T. 41.
Thayer, Nathaniel Niles,	<i>Boston,</i>	T. 39.
Towne, William Fitzgerald,	<i>Boston,</i>	H. 11.
Trail, Charles Bayard,	<i>Frederick City, Md.,</i>	M. 22.
Tuckerman, Bayard,	<i>New York, N. Y.,</i>	Dolton's Block 5.
Tuckerman, Paul,	<i>New York, N. Y.,</i>	Dolton's Block 10.
Tufts, James Arthur,	<i>Alstead, N. H.,</i>	60 Brattle St.
Van Buren, Martin,	<i>Fishkill, N. Y.,</i>	4 Story St.
Van Rensselaer, William Bayard,	<i>Albany, N. Y.,</i>	
Vickery, Herman Frank,	<i>Weymouth,</i>	C. 20.
Vinton, Charles Henry,	<i>Boston,</i>	T. 38.
Warden, Henry Prince,	<i>Kingston,</i>	60 Mt. Auburn St.
Waters, Ernest Upton,	<i>Newton,</i>	C. 27.
Welles, Benjamin,	<i>New York, N. Y.,</i>	H'ke 17.
Wells, John Walter,	<i>Brookline,</i>	10 Holyoke St.
Wetherbee, James Allen,	<i>Boston Highlands,</i>	H'ke 23.
Wheeler, Henry,	<i>Boston,</i>	T. 38.
Whitney, Joseph Cutler,	<i>Boston,</i>	W. 44.
Wiesenfeld, Bernard,	<i>Baltimore, Md.,</i>	17 Kirkland St.
Williams, Charles Kilborn,	<i>Rutland, Vt.,</i>	104 Mt. Auburn St.
Wiswell, Charles Henry,	<i>Little Falls, N. Y.,</i>	T. 8.
Wood, Henry Austin,	<i>West Upton,</i>	H. 17.
Wood, Stephen Blake,	<i>Arlington,</i>	H. 24.
Worcester, Alfred,	<i>Waltham,</i>	19 Oxford St.
Yates, Gilbert Montaland,	<i>Canajoharie, N. Y.,</i>	T. 14.
Young, Theodore Tripp,	<i>Saco, Me.,</i>	S. 23.

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## SUMMARY.

SENIORS . . . . .	152
JUNIORS . . . . .	159
SOPHOMORES . . . . .	208
FRESHMEN . . . . .	197
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Total . . . . .	716

## REQUISITIONS FOR ADMISSION.\*

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*All candidates for admission to College in 1875 must be examined in one of the two following Courses of Study, each embracing fifteen subjects, numbered as below.*

### COURSE I.

1. *Latin Grammar* (including prosody).
2. *Latin Composition and Latin at sight.* Some passage in prose, not included in the following requisitions, will be given for translation.
3. *Caesar, Sallust, and Ovid.* Caesar, Gallic War, Books I.-IV. inclusive; Sallust, Catiline; Ovid, four thousand lines.
4. *Cicero and Virgil.* Cicero, eight orations and the Cato Major; Virgil, Eclogues and the Aeneid, Books I.-VI. inclusive.
5. *Greek Grammar* (including metres).
6. *Greek Composition* (with the accents).
7. *Greek Prose.* Goodwin and Allen's Greek Reader; or Xenophon's Anabasis, Books I.-IV. inclusive, and the Seventh Book of Herodotus.
8. *Greek Poetry.* Homer's Iliad, Books I.-III. inclusive, omitting the catalogue of ships.
9. *Arithmetic* (including the metric system of weights and measures, together with the use and the rudiments of the theory of logarithms). The examples requiring the use of logarithms at the examination will be adapted to a four-place table.
10. *Algebra* (through quadratic equations).
11. *Plane Geometry* (as much as is contained in the first thirteen chapters of Peirce's Geometry).
12. *Ancient History and Geography.* Greek History, to the death of Alexander; Roman History, to the death of Commodus. Smith's smaller histories of Greece and Rome will serve to indicate the amount of knowledge demanded in history.
13. *Modern and Physical Geography.* The following works will serve to indicate the amount of knowledge demanded in this subject: in modern geography, Guyot's Common School Geography, or Miss Hall's

\* For additional requisition for admission in 1876, see p. 44.



Our World, No. 2; in physical geography, Guyot's Physical Geography, Parts II. and III., or Warren's Physical Geography, the first forty-nine pages.

14. *English Composition.* Each candidate will be required to write a short English composition, correct in spelling, punctuation, grammar, and expression. The subject for 1875 will be taken from one of the following works: Shakspeare's *Tempest*, Julius Cæsar, or *Merchant of Venice*; Goldsmith's *Vicar of Wakefield*; Scott's *Waverley* or *Marmion*.

15. *French or German.* The translation at sight of easy French prose; or of easy German prose, if the candidate prefer to offer German. Proficiency in elementary grammar will be accepted as an offset for some deficiency in translation. There will be no examination in pronunciation, but it is recommended that attention be given to pronunciation from the outset. Candidates who offer German in place of French will be required to pass a corresponding examination in French, at the end of the Freshman year.

## COURSE II.

1. *Latin Grammar* (including prosody).
2. *Latin Authors.* Caesar, *Gallic War*, Books I. and II.; Cicero, six orations and the *Cato Major*; Virgil, *Aeneid*, Books I.-VI. inclusive.
3. *Greek Grammar* (including metres).
4. *Greek Authors.* Goodwin and Allen's *Greek Reader*, first 111 pages, or Xenophon's *Anabasis*, Books I.-IV. inclusive; Homer's *Iliad*, Books I. and II., omitting the catalogue of ships.
5. *Arithmetic.* This requisition is the same as No. 9 of Course I.
6. *Elementary Algebra.* This requisition is the same as No. 10 of Course I.
7. *Advanced Algebra.* This subject, with the preceding, is regarded as embracing as much algebra as is contained in the advanced textbooks, such as the larger algebras of Todhunter, Loomis, Greenleaf, &c.
8. *Plane Geometry.* This requisition is the same as No. 11 of Course I.
9. *Solid Geometry* (as much as is contained in Peirce's *Geometry*).
10. *Plane Trigonometry* (by the Analytic Method, as much as is contained in the first six chapters of Peirce's *Trigonometry*, or in the large print of the first eight chapters of Chauvenet's *Trigonometry*).
11. *The Elements of Plane Analytic Geometry* (as much as is contained in Peck's *Analytic Geometry*, pages 1-151, omitting articles 40-43, 54, 57-61, 72, 74-76, and the more difficult problems).
12. *Ancient History and Geography.* This requisition is the same as No. 12 of Course I.

13. *Modern and Physical Geography.* This requisition is the same as No. 13 of Course I.

14. *English Composition.* This requisition is the same as No. 14 of Course I.

15. *French or German.* This requisition is the same as No. 15 of Course I.

#### REMARKS.

No partial substitutions or interchanges between Courses I. and II. will be allowed; but candidates are encouraged to present themselves on *both* Courses, or on one of them with additional studies belonging to the other.

Students who enter College in Course II. may be admitted immediately to elective sections in mathematics, if they pass the examination with sufficient credit, and must, in any case, substitute elective studies amounting to four hours a week in place of the mathematics of the Freshman year. They may also substitute an elective study for the Latin and Greek Composition of the Freshman year. Those who desire to attain special distinction in Mathematics or Physical Science are advised to present themselves in this Course.

At the beginning of the Freshman year a special division in Classics is formed, consisting of those who pass with the highest credit the examinations in Latin and Greek.

No particular text-book in Grammar is required; but either Allen's or Harkness's Elementary Latin Grammar, and either Goodwin's or Hadley's Elementary Greek Grammar, will serve to indicate the nature and amount of the grammatical knowledge demanded.

In Latin the following pronunciation is recommended: *ā* as in *father*, *ă* the same sound but shorter, *ē* like *e* in *fête*, *ē* as in *set*, *ī* as in *machine*, *ī* as in *sit*, *ō* as in *hole*, *ō* as in *nor*, *ū* as in *rude*, *ū* as in *put*; *j* like *y* in *year*, *c* and *g* like Greek *κ* and *γ*.

Instructors are requested to teach their pupils in pronouncing Greek to use the *Greek Accents*, and to give (for example) *α* the sound of *a* in *father*, *η* that of *a* in *fate*, *ι* that of *i* in *machine*, &c.

It is earnestly recommended that the requisitions in Latin and Greek Authors be accurately complied with: real equivalents, however, will be accepted; as, for example, Caesar's Gallic War, Books V. and VI. in place of Sallust's *Catiline*; two additional orations of Cicero in place of the *Cato Major*; five additional books of the *Aeneid* in place of *Ovid*.

In Geometry students are advised to study some introductory text-book, such as Hill's *First Lessons*, before beginning a systematic course in Geometry.

A set of recent examination papers will be sent to any teacher on application to the Secretary.

## OPTIONAL EXAMINATIONS.

## THE CLASSICS.

Candidates who present themselves upon Course I. will be at liberty to offer themselves for additional examination upon the following classical subjects :—

## LATIN.

Livy (two books).

Horace (Odes and Epodes).

The translation at sight of a passage from the philosophical works of Cicero.

The retranslation of the English of a similar passage into Latin.

## GREEK.

Plato (Apology and Crito).

Homer (Iliad, Books IV.–VIII. inclusive, or Odyssey, Books IV. and IX.–XII. inclusive).

Euripides (Alcestis), or Homer (Odyssey, Books V.–VII. inclusive).

Translation from English into Greek.

No candidate will be *required* to present himself at these examinations ; but those who pass them with high credit, in addition to the other classical examinations of Course I. above, will be admitted, immediately on entering College, to advanced sections in Latin and Greek, or to elective studies either in the classics or in other departments, in place of the Freshman studies thus anticipated. All those who wish to attain distinction in classical studies, or to graduate with classical honors, are advised to pass these examinations on entering.

## MATHEMATICS.

Candidates who present themselves upon Course I. are at liberty to offer themselves for examination also upon any of the advanced Mathematical subjects (7, 9, 10, 11) of Course II. ; and upon passing such examination with credit they will be admitted to an elective section, either in Mathematics or in some other subject, in place of the Freshman study thus anticipated.

## GERMAN.

Candidates for admission who present French may offer themselves for examination also in German Grammar and the translation of simple German prose, and upon passing such examination with credit will be excused from attendance upon the Freshman Course in German, but will be obliged to take some elective course.

## PREScribed STUDIES OF THE SOPHOMORE AND JUNIOR YEARS.

Candidates for admission to the Freshman Class, who are prepared to pass a creditable examination upon any of the prescribed studies of the Sophomore and Junior years (see pages 48-62), may pass such examination at the beginning of the Freshman year, instead of at the beginning of the year in which the study is pursued, and thereby relieve themselves from attendance at the exercises in that study in College.

A principal aim in providing these examinations is to encourage teachers to carry the studies of their brighter and more diligent pupils beyond the bare requisitions for admission, in whatever direction taste or opportunity may suggest. Full employment may thus be secured for the most capable student until he is thought mature enough to enter College, while his greater progress in school will make College more profitable by enabling him to take up his studies at a more advanced stage, or to give more time to the studies of his choice.

## TIMES OF EXAMINATION.

Two regular examinations for admission to the *Freshman* Class are held each year, one at the beginning of the summer vacation, the other at the beginning of the academic year in the autumn.

In 1875 the first examination will take place on Thursday, Friday, and Saturday, July 1, 2, and 3; and the second on Thursday, Friday, and Saturday, September 30 and October 1 and 2. Each examination will begin at precisely 8 o'clock, A.M., on Thursday. The candidates will assemble in Harvard Hall. Attendance on the three days is required.

The optional examinations will be held at the time of the second examination for admission; those in Mathematics also at the first examination.

*No person will be examined for admission to College at any other time than those above specified.*

## ADVANCED STANDING.

Candidates may be admitted to advanced standing as late as the beginning of the Senior year, provided they present themselves for examination as directed below. The candidate for admission to advanced standing must appear on examination to be well versed in the following studies:—

1. In the studies required for admission to the Freshman Class.
2. In all the prescribed studies already pursued by the class for which

he is offered; and in as many *elective* studies as he would have pursued if he had entered at the beginning of the course, including, if he is offered in Course II., elective studies substituted in place of the Mathematics of the Freshman year.

All candidates for admission to advanced standing must be examined at the times of the regular examinations for admission to the Freshman Class, and in conformity with the following rules:—

1. All candidates for admission to advanced standing must first be examined for admission to the Freshman Class; for this examination they may offer themselves at either the first or the second examination.

2. The examination on the studies of the Freshman, Sophomore, and Junior years, is held *only in the autumn*, at the time of the regular examination for admission to the Freshman Class.

3. All candidates for admission to advanced standing will assemble with the candidates for admission to the Freshman Class on Thursday, at 8 o'clock, A.M., in Harvard Hall.

In the case of graduates of other colleges who seek admission to Harvard College, the examination will be directed to ascertaining whether their previous course of study has been sufficiently extensive and their proficiency in it sufficiently great, to fit them to join the class for which they offer themselves, a minute acquaintance with all the ground they have previously gone over not being essential. Such candidates should bring evidence of their standing at the colleges where they received their degree.

### TESTIMONIALS AND BOND.

All candidates for admission are required, before examination, to produce certificates of good moral character; and students from other colleges are required to bring certificates from those colleges of honorable dismission.

Every candidate, if admitted, must furnish to the Steward a bond for *six hundred dollars*, executed by two bondsmen, one of them a citizen of Massachusetts, as security for the payment of College dues; or, if he prefer, he may make, in place of the bond, a deposit of money with the Steward for the same purpose.

No officer or student of the University will be accepted as bondsman.

### NEW REQUISITION FOR ADMISSION IN 1876.

Candidates for admission in 1876 and thereafter will be examined in all the subjects required for admission in 1875, as stated above, and also in one of the three following subjects in Elementary Science, viz.:—

1. *Elementary Botany.*
2. *Rudiments of Physics and Chemistry.*
3. *Rudiments of Physics and of Descriptive Astronomy.*

The selection of the subject will be left with the candidate.

The following books are mentioned as serving to indicate the nature and extent of this requisition : —

In Botany, Gray's "How Plants Grow."

In Physics, Balfour Stewart's *Primer of Physics*.

In Chemistry, Roscoe's *Primer of Chemistry*.

In Astronomy, Rolfe and Gillet's *Handbook of the Stars* (first 124 pages).

Candidates who offer Botany will be required to give evidence that they can analyze simple specimens; and those who offer Physics or Chemistry, that they can perform simple experiments like those described in the Primers referred to above.

This requisition will form the *sixteenth* subject in both courses of preparatory study.

#### DIVISION OF THE EXAMINATION.

Candidates for admission to the Freshman Class are allowed to divide the examination into two examinations separated by an interval of not less than an academic year, provided they present themselves at the preliminary examination in at least seven of the subjects enumerated in either Course. No candidate, however, will be admitted to examination on a part of any subject, and no account will be made of, nor certificate be given for, the preliminary examination, unless the candidate has passed satisfactorily in at least four subjects.

Candidates who prefer may still pass the entire examination in the same year, as heretofore.

# COURSE OF STUDY

## FOR THE DEGREE OF A.B.

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The course of study to be pursued by a candidate for the Bachelor's degree is made up in part of studies which are prescribed, and pursued by all students alike, and in part of studies selected by the student himself out of the various courses of instruction which are given in the College.

### PREScribed STUDIES.

The prescribed studies occupy the whole of the Freshman year and about one-third of the Sophomore and Junior years. In the Senior year only certain written exercises are prescribed.

### ANTICIPATION OF PRESCRIBED STUDIES.

The prescribed studies of the Sophomore and Junior years being of an elementary character, students who wish to be relieved from attendance at College exercises in one or more of them will be excused from such attendance, if they pass a satisfactory examination in such study or studies at the beginning of the year in which they would regularly pursue the study or studies in College, or at the time of their examination for admission to College. Studies which are pursued only in the second half-year may also be anticipated in the same way in the middle of the year. *No such examination will be deemed satisfactory unless the student shall succeed in obtaining at least one-half of the maximum mark.* The mark obtained when the examination is successful will be credited to the student as his mark on the Annual Scale of the study which forms the subject of the examination. Preparation for these examinations can often be made while the student is preparing for College or in the long vacation, and time may be thus gained for higher courses of study.

Students who intend to present themselves for such examination in any required study for 1875-76 must give notice to the Dean in writing before September 1, 1875.

Information concerning the requirements for passing the examination in any study can be obtained from the instructor in that study.

### ELECTIVE STUDIES.

In addition to the prescribed studies, each Sophomore is required to pursue courses, chosen by himself from the elective studies,\* amounting to *eight* exercises a week for the year ; each Junior, courses amounting to *eleven* exercises a week ; and each Senior, courses amounting to *twelve* exercises a week. Students are at liberty to attend the instruction in as many other subjects as they may have time and taste for pursuing.

In choosing his electives, the student must satisfy his instructors that he is qualified by his previous training to pursue those which he selects. With this limitation, all the courses given in the College are open to him in making his choice ; but he is strongly recommended to make his choice with great care, under the best advice, and in such a manner that his elective courses from first to last may form a rationally connected whole.

Undergraduates who intend to study Engineering are recommended by the Scientific Faculty to take, as extras, the courses of Drawing and Surveying in the Scientific School ; and those who intend to study Medicine are advised by the Medical Faculty to pay special attention to the study of Natural History, Chemistry, Physics, and the French and German languages, while in College.

It will be seen that students who prefer a course like the usual prescribed course of American colleges can perfectly secure it, under this system, by a corresponding choice of studies ; while others, who have decided tastes, or think it wiser to concentrate their study on a few subjects, obtain every facility for doing so, and still secure in the briefer prescribed course an acquaintance with the elements of the leading branches of knowledge.

\* The prescribed Philosophy of the Junior year may be taken as an elective by Sophomores.



# COURSES OF INSTRUCTION

FOR THE ACADEMIC YEAR 1874-75.

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## I. ANCIENT LANGUAGES.

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### HEBREW.

PROF. YOUNG.

Hahn's or Theile's *Biblia Hebraica*. — Conant's Gesenius's *Grammar*.  
*Three hours a week. 8 Seniors.*

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### SANSKRIT.

**Sanskrit 1.** — ASST. PROF. GREENOUGH.

*Elements of Sanskrit Grammar.* — Hitopadeça, Book I.  
*Three hours a week. 2 Graduates, 1 Senior, 1 Freshman.*

**Sanskrit 2.** — ASST. PROF. GREENOUGH.

*Comparative Grammar of Sanskrit, Greek, and Latin.*  
*Three hours a week. 1 Senior.*

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## II. THE CLASSICS.

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### GREEK.

#### PRESCRIBED GREEK.

**FRESHMAN YEAR.** — ASST. PROF. EVERETT, MR. J. W. WHITE, and  
MR. CROSWELL.

Xenophon (*Memorabilia*). — Plato (*Apology* and *Crito*). — Herodotus  
(*Selections* from Book I.). — Isocrates (*Panegyricus*). — Euripides (*Al-*  
*win's Greek Moods and Tenses*). — Greek Composition. —  
Grote's *History of Greece* to illustrate the authors read.  
*two weeks.*

**ELECTIVES.****Greek 1. — ASST. PROF. ANDERSON.**

Demosthenes (Philippics). — Euripides (Medea). — Plato (Lysis and Charmides).

*Two hours a week. 1 Senior, 3 Juniors, 50 Sophomores, 2 Freshmen.*

**Greek 2. — ASST. PROF. ANDERSON.**

Sophocles (Oedipus Tyrannus). — Plato (Phaedo). — Aristophanes (Birds).

*Two hours a week. 10 Juniors, 45 Sophomores.*

In Courses 1 and 2, in addition to the ordinary divisions, a division will be formed to give candidates for Second-Year Honors instruction in composition and translation.

**Greek 3. — ASST. PROF. ANDERSON.**

Advanced Composition and Translation (Sargent's Materials for Greek Composition). *Especially intended for candidates for honors.*

*One hour a week. 5 Seniors, 1 Junior, 2 Freshmen.*

**Greek 4. — PROF. GOODWIN.**

Aeschines (against Ctesiphon). — Demosthenes (on the Crown). — Lectures on the Constitution of Athens. — Aeschylus (Seven against Thebes). — Sophocles (Oedipus at Colonus).

*Three hours a week. 1 Senior, 18 Juniors.*

**Greek 5. — PROF. SOPHOCLES.**

Greek History (Selections from Greek authors).

*Three hours a week. 6 Seniors, 2 Juniors.*

**Greek 6. — PROF. GOODWIN.**

Aeschylus (Agamemnon). — Sophocles (Electra). — Euripides (Hippolytus). — Aristophanes (Frogs). — Elegiac and Lyric Poets (Selections). *For Seniors only.*

*Three hours a week. 5 Seniors.*

**Greek 7. — PROF. GOODWIN.**

Plato (Protagoras and parts of the Republic). — Aristotle (Politics).

*Three hours a week. 9 Seniors, 5 Juniors.*

**Greek 8. — PROF. SOPHOCLES.**

Ecclesiastical Greek (Justin and Hippolytus). — Lectures on the early Christian Sects.

*Three hours a week. 5 Seniors, 1 Junior.*

**Greek 9. — PROF. GOODWIN.**

Thucydides (Books I. and II.). — Demosthenes (Legal Orations). — Athenian Legal Antiquities.

*Three hours a week. (Not given this year.)*

**L A T I N.****PRESCRIBED LATIN.**

**FRESHMAN YEAR.** — ASST. PROFS. EVERETT and SMITH and MR. HALE.

*Livy* (Book IX.). — *Horace* (Odes and Epodes). — *Merivale's History of the Romans*, Chapters 25-28, 30, 35, 36, 40, 41. — *Extemporaneous Translation and Composition.*

*Seven hours in two weeks.*

**ELECTIVES.**

**Latin 1.** — ASST. PROF. GREENOUGH.

*Literary Course.* — *Cicero* (Selections from his Letters, and Oration for Sestius). — *Terence* (one play).

*Two hours a week. 7 Juniors, 91 Sophomores.*

**Latin 2.** — ASST. PROF. GREENOUGH.

*Philosophical Course.* — *Cicero* (*De Natura Deorum* and *Tusculan Disputations*). — *Seneca* (Selections).

*Two hours a week. 1 Senior, 12 Juniors, 29 Sophomores.*

**Latin 3.** — ASST. PROF. GREENOUGH.

*Rhetorical Course.* — *Quintilian* (Book X.). — *Cicero* (*De Oratore*, Selections).

*One hour a week. 1 Senior, 3 Juniors, 18 Sophomores, 2 Freshmen.*

**Latin 4.** — ASST. PROF. GREENOUGH.

*Cicero* (*Laelius*). — *Horace* (*Satires*).

*One hour a week. 1 Senior, 3 Juniors, 34 Sophomores, 1 Freshman.*

In Courses 1, 2, and 3, the translation, both in recitations and examinations, will be largely "at sight." Course 4 is for critical reading. A division will also be formed for the special instruction of candidates for Second-Year Honors.

**Latin 5.** — ASST. PROF. EVERETT.

*History of the Fall of the Republic.* — *Cicero's Epistles.* — *Caesar* (*De Bello Civili*). — *Lucan* (Extracts).

*Two hours a week. 31 Sophomores.*

**Latin 6.** — ASST. PROF. EVERETT.

*Exercises in Translation and Composition* (Nixon's "Parallel Passages").

*One hour a week. 4 Seniors, 1 Junior, 7 Sophomores, 1 Freshman.*

**Latin 7.** — PROF. LANE.

*Writers of the Empire.* — *Pliny.* — *Tacitus.* — *Suetonius.* — *Juvenal.*

*Three hours a week. 7 Seniors, 26 Juniors, 1 Sophomore.*

**Latin 8. — PROF. LANE.**

*Writers of the Republic.* — Plautus. — Cicero. — Lucretius. — Catullus.  
*Three hours a week.* 23 Seniors, 32 Juniors, 1 Sophomore.

**Latin 9. — MR. E. YOUNG.**

*Elements of Roman Law.* — Institutes of Gaius and of Justinian. — Demangeat's Cours de Droit Romain.  
*Three hours a week.* 16 Seniors, 1 Junior.

**III. MODERN LANGUAGES.****ENGLISH.****PRESCRIBED STUDIES.**

**Prescribed Rhetoric.** — ASST. PROF. A. S. HILL.

*Sophomore Year.*

Campbell's Philosophy of Rhetoric (Book 2, Chapters I. — VI.). — Whately's Rhetoric (Part 3). — Herbert Spencer's Philosophy of Style. — Written Exercises.

*Two hours a week. First half year.*

*Junior Year.*

Whately's Rhetoric (to end of Part 2). — Lessing's Laocoon (Chapters 18–26).

*Two hours a week. Second half year.*

**Prescribed Themes and Forensics.**

**SOPHOMORE YEAR.** Six Themes: ASST. PROF. A. S. HILL.

**JUNIOR YEAR.** Six Themes: PROF. CHILD.

Four Forensics: ASST. PROF. PALMER.

**SENIOR YEAR.** Four Forensics.

*Candidates for Honors* may substitute for Forensics an equal number of Theses in their special departments, provided such substitution is permitted by the Instructors in those departments.

**ELECTIVES.**

**English 1. — PROF. CHILD.**

*English.* — Hadley's History of the English Language. — The Elements of Anglo-Saxon. — Morris's Historical English Accidence. — Lectures.

*Two hours a week.* 1 Junior, 18 Sophomores, 1 Freshman.

**English 2. — PROF. CHILD.**

*Anglo-Saxon and Early English.* — Beowulf. — Mätzner's *Altenglische Sprachproben*.

*Three hours a week.* (Not given this year.)

**English 3. — PROF. CHILD.**

*English Literature.* — Chaucer. — Shakspeare. — Bacon. — Milton. — Dryden.

*Three hours a week.* 7 Seniors, 8 Juniors, 2 Sophomores, 2 Freshmen.

**GERMAN.****PRESCRIBED GERMAN.**

**FRESHMAN YEAR. — MESSRS. BARKER and BARTLETT.**

Whitney's *Grammar and Selections from Whitney's Reader*.

*Three hours a week.*

**ELECTIVES.****German 1. — MR. BARTLETT.**

German Syntax and Composition. — German Plays and Stories.

*Two hours a week.* 1 Senior, 2 Juniors, 77 Sophomores.

**German 2. — MR. W. COOK.**

German Historical Prose.

*Two hours a week.* 1 Senior, 7 Juniors, 36 Sophomores.

Course 2 is intended for those students only who wish to read a large amount of German as a preparation for the use of German text-books and other aids in studies of the Junior and Senior years.

**German 3. — PROF. HEDGE.**

Adler's *Hand-Book of German Literature*. — Schiller's *Wallenstein*. — Lessing's *Emilia Galotti*. — German Lyrics. — Composition.

*Three hours a week.* 14 Seniors, 56 Juniors.

**German 4. — PROF. HEDGE.**

Richter. — Goethe's *Faust*. — German Lyrics. — Goethe's *Aus meinem Leben*. — Composition.

*Three hours a week.* 18 Seniors, 8 Juniors, 1 Freshman.

**FRENCH.****PRESCRIBED FRENCH.****SOPHOMORE YEAR. — MR. JACQUINOT.**

Required only of those who fail to pass an examination upon this subject by the beginning of the Sophomore year.

Otto's French Grammar. — Bôcher's Reader.

*Two hours a week. 89 Sophomores.*

**ELECTIVES.****French 1. — MR. JACQUINOT.**

Chardenal's Advanced Exercises. — About (Les Mariages de Paris). — Achard (Le Clos Pommier). — Feuillet (Le Roman d'un Jeune Homme Pauvre). — Labiche et Delacour (Les Petits Oiseaux).

*Three hours a week. 3 Seniors, 41 Juniors, 85 Sophomores.*

**French 2. — PROF. BÔCHER.**

Molière (seven Comedies). — Corneille (Le Menteur). — Racine (Andromaque). — Balzac (Eugénie Grandet). — Grammar and Composition.

*Three hours a week. 10 Seniors, 19 Juniors, 21 Sophomores, 8 Freshmen.*

**French 3. — PROF. BÔCHER.**

Montaigne (Essays). — Monnard's Chrestomathie des Prosateurs Français. — Molière (Le Tartuffe). — Cherbuliez (Prosper Randoe). — Bonnefon (Les Écrivains Célèbres de la France). — Composition.

*Three hours a week. 16 Seniors, 8 Juniors, 5 Sophomores.*

**French 4. — MR. JACQUINOT.**

Syntaxe Supérieure. — Paul Albert (La Littérature Française au XVII<sup>ème</sup> Siècle). — Corneille (Cinna). — Molière (Le Tartuffe). — Racine (Phèdre). — Boileau (L'Art Poétique). — Pascal, La Rochefoucauld, La Bruyère, La Fontaine, Mme. de Sévigné, Bossuet, Fénelon (Morceaux choisis). — Composition and Themes.

*Three hours a week. 1 Senior, 2 Juniors, 6 Sophomores.*

**French 5. — PROF. LOWELL.**

Old French. Bartsch's Chrestomathie de l'Ancien Français. — Chanson de Roland.

*Three hours a week. 8 Seniors.*

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**ITALIAN.****Italian 1. — ASST. PROF. NASH.**

Prose Scelte. — Italian Grammar. — Italian Composition.

*Two hours a week. 2 Seniors, 13 Juniors, 16 Sophomores.*

**Italian 2. — ASST. PROF. NASH.**

Nota's *La Fiera*. — A. Manzoni. — Tasso. — Italian Composition.  
*Three hours a week. 3 Seniors, 10 Juniors.*

**Italian 3. — PROF. LOWELL.**

Early Italian (Selections). — Petrarca. — Dante. — Machiavelli.  
*Three hours a week. 4 Seniors.*

**SPANISH.****Spanish 1. — ASST. PROF. NASH.**

Cadalso (*Cartas Marruecas*). — Gil Blas. — Spanish Grammar and Composition.  
*Three hours a week. 9 Seniors, 4 Juniors, 7 Sophomores.*

**Spanish 2. — ASST. PROF. NASH.**

Moratin. — Don Quixote. — Lope de Vega. — Calderon. — Spanish Composition.  
*Three hours a week. 6 Seniors, 1 Junior*

**ROMANCE PHILOLOGY.****PROF. BÔCHER.**

*Philology of the Romance Languages.* — Diez (*Grammatik der Romanischen Sprachen*). — Bartsch's *Chrestomathie de l'Ancien Français*. — Bartsch's *Chrestomathie Provençale*. — Nannucci's *Manuale della Letteratura del Primo Secolo della Lingua Italiana*. — Lectures. — Thesis.  
*Three hours a week. (Not given this year.)*

**IV. PHILOSOPHY.****PRESCRIBED STUDIES.****Prescribed Ethics. — PROF. PEABODY.**

*Freshman Year.*

Peabody's *Moral Philosophy*.

*One hour a week. First half-year.*

**Prescribed Political Economy. — PROF. DUNBAR.**

*Sophomore Year.*

Fawcett's *Political Economy for Beginners*. — Constitution of the United States (Alden's *Science of Government*, omitting the first four and the last three chapters).

*Two hours a week. Second half-year.*

**Prescribed Philosophy. — ASST. PROF. PALMER.***Junior Year.*

*Jevon's Logic. — Porter's Elements of Intellectual Philosophy.  
Two hours a week.*

*This course is taken as an elective by 41 Sophomores.*

**ELECTIVES.***Junior Studies.***Philosophy 1. — PROF. BOWEN.**

*Psychology. — Locke's Essay on Human Understanding (Selections). — Cousin, Philosophie de Locke. — Bouillier, Histoire de la Philosophie Cartésienne, Vol. I. — Lectures.*

*Three hours a week. 8 Seniors, 48 Juniors.*

**Philosophy 2. — PROF. BOWEN.**

*Ancient Philosophy. — Renouvier's Manuel de Philosophie Ancienne. — Ueberweg's History of Ancient Philosophy. — Nourrisson, Progrès de la Pensée Humaine.*

*Three hours a week. (Not given this year.)*

*Course 2 is open only to students who take, or have taken, Course 1.*

**Philosophy 3. — ASST. PROF. PALMER.**

*Logic. — De Morgan's Formal Logic. — Mill's Logic.*

*Two hours a week. (Not given this year.)*

*Senior Studies***Philosophy 4. — PROF. BOWEN.**

*Schools of Descartes and Kant. — Bouillier, Histoire de la Philosophie Cartésienne. — Kant's Critique of Pure Reason. — Ueberweg's History of Modern Philosophy. — Lectures on French and German Philosophy.*

*Three hours a week. 57 Seniors, 2 Juniors.*

**Philosophy 5. — PROF. BOWEN.**

*Modern German Philosophy. — Hartmann's Philosophie des Unbewussten. — Schopenhauer's Die Welt als Wille und Vorstellung.*

*Three hours a week. 4 Seniors.*

*Course 5 is only for students who take, or have already taken, Course 4.*

**Philosophy 6. — PROF. PEABODY.**

*Ethics. — Jouffroy's Ethics. — Cicero de Officiis. — Lectures.*

*Three hours a week. 20 Seniors, 11 Juniors, 1 Sophomore.*



**Philosophy 7. — PROF. DUNBAR.**

*Political Economy.* — Fawcett's Manual of Political Economy. — Blanqui's Histoire de l'Économie Politique en Europe. — Bagehot's Lombard Street.

*Three hours a week. 19 Seniors, 14 Juniors.*

**Philosophy 8. — PROF. DUNBAR.**

*Political Economy.* — J. S. Mill's Political Economy. — Bagehot's Lombard Street. — Subjects in Currency and Taxation.

*Three hours a week. 65 Seniors, 33 Juniors.*

Courses 7 and 8 are parallel Courses, Course 7 being preferable for students of History.

Any Sophomore may take as one of his Electives the prescribed course in Philosophy (two hours a week) of the Junior year; and, in his Junior year, in place of the prescribed Philosophy thus anticipated, may take any Elective open to Sophomores or Juniors.

**V. HISTORY.****PRESCRIBED HISTORY.**

**SOPHOMORE YEAR. — MR. E. YOUNG.**

Freeman's Outlines of General History, Chapters V. — XII. inclusive. — Guizot's Lectures on the History of Civilization in Europe, Lectures II. — XI. inclusive.

*Two hours a week. First half-year.*

**ELECTIVES.**

*Sophomore Studies.*

**History 1. — ASST. PROF. SMITH.**

Later Roman and Early Mediæval History.

*Two hours a week. 2 Juniors, 50 Sophomores, 1 Freshman.*

*Junior Studies.*

**History 2. — MR. E. YOUNG.**

The General History of Europe from the Tenth to the Sixteenth Century.

*Three hours a week. 1 Senior, 82 Juniors, 1 Sophomore.*

**History 3. — ASST. PROF. ADAMS.**

Mediæval Institutions. (Advanced Course.)

*Three hours a week. 5 Seniors, 6 Juniors.*

Course 3 is only for students who take, or have taken, Course 2.

*Senior Studies.***History 4. — ASST. PROF. ADAMS.**

History of England to the Seventeenth Century (Constitutional and Legal).

*Three hours a week. 17 Seniors.*

**History 5. — ASST. PROF. ADAMS.**

Colonial History of America to the year 1789.

*Three hours a week. 16 Seniors, 6 Juniors.*

**History 6. — PROF. TORREY.**

Modern History (Seventeenth Century and first half of the Eighteenth).

*Three hours a week. 20 Seniors, 27 Juniors.*

**History 7. — PROF. TORREY.**

Modern History (from the Middle of the Eighteenth Century).

*Three hours a week. 55 Seniors, 10 Juniors.*

## VI. MATHEMATICS.

**PRESCRIBED MATHEMATICS.***Freshman Year.***1. ASST. PROF. PETTEE.**

Solid Geometry (Chauvenet). — Algebra (Peirce).

*Two hours a week.*

**2. ASST. PROF. C. J. WHITE.**

Plane Trigonometry (Chauvenet). — Elements of Analytic Geometry (Peck).

*Two hours a week.*

**ELECTIVES.***Sophomore Studies.***Mathematics 1. — PROF. J. M. PEIRCE.**

Differential and Integral Calculus (Elementary Course).

*Two hours a week. 4 Juniors, 34 Sophomores, 5 Freshmen.*

**Mathematics 2. — PROF. J. M. PEIRCE.**

Analytic Geometry (Salmon's Conic Sections: Chapters I.-III., V.-VII., X.-XIII.). — Elements of Analytic Geometry of Space. — Spherical Trigonometry.

*Two hours a week. 13 Sophomores, 2 Freshmen.*

**Mathematics 3. — ASST. PROF. C. J. WHITE.**

Practical Applications of Trigonometry. — Principles of Surveying. — Spherical Trigonometry. — Applications of Spherical Trigonometry to Astronomy and Navigation.

*Two hours a week. 1 Senior, 2 Juniors, 44 Sophomores, 6 Freshmen.*

**Mathematics 4. — PROF. J. M. PEIRCE.**

Exercises in Geometry, Algebra, and Trigonometry.

*One hour a week. 3 Juniors, 2 Sophomores.*

*Junior Studies.*

**Mathematics 5. — PROF. J. M. PEIRCE.**

Differential and Integral Calculus (Second Course).

*Two hours a week. 1 Senior, 9 Juniors.*

**Mathematics 6. — PROF. J. M. PEIRCE.**

Methods and Exercises in the Calculus.

*One hour a week. 1 Senior, 8 Juniors.*

**Mathematics 7. — PROF. EUSTIS.**

Descriptive Geometry and Perspective.

*Two hours a week. 1 Junior, 2 Freshmen.*

**Mathematics 8.**

Modern Geometrical Methods (later chapters of Salmon's Conic Sections, with some text-book on Modern Geometry).

*Two hours a week. (Not given this year.)*

**Mathematics 9. — PROF. J. M. PEIRCE.**

Examples in Conic Sections.

*One hour a week. 2 Seniors, 2 Juniors.*

*Senior Studies.*

**Mathematics 10. — PROF. B. PEIRCE.**

Analytic Mechanics (Peirce).

*Two hours a week. 2 Seniors.*

**Mathematics 11. — PROF. J. M. PEIRCE.**

Examples in Mechanics (Kerr, Jullien, &c.).

*One hour a week. 2 Seniors.*

**Mathematics 12. — PROF. B. PEIRCE.**

Electricity and Magnetism (Maxwell).

*Two hours a week. 1 Junior.*

**Mathematics 13.** — PROF. J. M. PEIRCE.

Elliptic Functions (Briot and Bouquet, second edition).

*Two hours a week. 2 Seniors.*

**Mathematics 14.** — PROF. J. M. PEIRCE.

Quaternions.

*Two hours a week. (Not given this year.)*

Course 4 is primarily intended (as an Elective or Extra) for Candidates for Second-Year Honors; but it is recommended to all who may desire to review the Elementary Mathematics.

A Course in Geometry of Three Dimensions may be expected in 1875-76.

## VII. PHYSICS.

### PRESCRIBED PHYSICS.

**SOPHOMORE YEAR.** — ASST. PROF. G. A. HILL.

White's Astronomy. — Stewart's Elementary Physics (Chapters I.-VI.), with Hill's Questions and Exercises on the same, omitting the exercises in fine print. — Lectures.

*Three hours a week.*

**JUNIOR YEAR.** — PROF. LOVERING.

Lectures.

*One hour a week.*

**ELECTIVES.**

*Sophomore Study.*

**Physics 1.** — MR. WRIGHT.

Dynamics (Thomson and Tait's Elements of Natural Philosophy, Part I.).

*Two hours a week. 1 Senior, 12 Juniors, 2 Sophomores.*

*Junior Studies.*

**Physics 2.** — PROF. LOVERING.

Astronomy, Optics, and Acoustics.

*Three hours a week. 2 Seniors, 7 Juniors.*

**Physics 3.** — ASST. PROF. TROWBRIDGE.

Practical Exercises in the Laboratory, including the use of instruments of precision in testing the laws of Mechanics, Acoustics, Optics, Magnetism, and Electricity; and an extended course in Electrical Measurements.

*Three times a week. 11 Seniors, 24 Juniors.*

*Senior Studies.***Physics 4. — PROF. LÖVERING.**

Undulatory Theory of Light. — Electricity and Magnetism.

*Three hours a week. 1 Senior, 4 Juniors.*

**Physics 5. — PROF. GIBBS.**

Heat (with its Applications).

*Three hours a week. 2 Seniors.*

Course 1, which is open to students of all classes, can be pursued only by students who have a good knowledge of the Freshman Mathematics, and who take, or have taken, the first Elective Course in Mathematics.

Courses 2 and 4 can be pursued only by students who are able readily to solve problems involving the use of Algebra, Trigonometry, and Analytic Geometry. The same requisitions are made for Course 5, together with some knowledge of the Calculus.

## VIII. CHEMISTRY.

### —♦— PRESCRIBED CHEMISTRY.

**FRESHMAN YEAR. — PROF. COOKE.**

Elementary Chemistry (Lectures and Recitations).

*Three hours a week. Second half-year.*

**ELECTIVES.**

*Sophomore Study.*

**Chemistry 1. — MR. FIELD.**

Elementary Chemistry (with Laboratory Practice). — Eliot and Storer's Manual. — Cooke's Chemical Philosophy.

*Twice a week. 59 Sophomores, 1 Freshman.*

*Junior Study.*

**Chemistry 2. — ASST. PROF. H. B. HILL.**

Qualitative Analysis. — Chemical Philosophy.

*Three times a week. 8 Seniors, 29 Juniors, 2 Sophomores.*

*Senior Studies.*

**Chemistry 3. — PROF. COOKE.**

Mineralogy (including Use of the Blowpipe and Crystallography).

*Three times a week. 12 Seniors.*

**Chemistry 4. — PROF. COOKE, assisted by MR. GOOCH.**

Quantitative Analysis (chiefly Laboratory Work).

*Three times a week. 6 Seniors.*

**Chemistry 5.** — ASST. PROF. H. B. HILL.

Organic Chemistry (Theoretical and Experimental).

*Three times a week. 8 Seniors.*

Students who take Course 2, 3, or 4, are required also to attend a course of lectures by Prof. Cooke.

**IX. NATURAL HISTORY.***Sophomore Study.***Natural History 1.** — ASST. PROF. PETTEE.

Physical Geography, Meteorology, and Structural Geology.

*Two hours a week. 45 Sophomores, 1 Freshman.**Junior Studies.***Natural History 2.** — ASST. PROF. GOODALE.

Botany.

*Three times a week. 15 Seniors, 80 Juniors, 1 Sophomore, 1 Freshman.***Natural History 3.** — DR. JAMES.

Comparative Anatomy and Physiology of Vertebrates.

*Three hours a week. 6 Seniors, 27 Juniors, 1 Sophomore.***Natural History 4.** — PROF. MCCRADY.

Zoölogy (Radiates and Articulates).

*Three times a week. 2 Seniors, 2 Juniors.***Natural History 5.** — PROF. SHALER.

Geology.

*Three hours a week. 15 Seniors, 18 Juniors.**Senior Studies.***Natural History 6.** — PROF. SHALER.

Palæontology.

*Three hours a week. 8 Seniors.***Natural History 7.** — PROF. MCCRADY.

Zoölogy (Mollusks and Vertebrates).

*Three times a week. 5 Seniors.***Natural History 8.** — ASST. PROFS. GOODALE and FARLOW.

Advanced Botany.

*Three times a week. 9 Seniors.***X. MUSIC.****Music 1.** — ASST. PROF. PAINE.

Harmony. — Chorals in three and four part Harmony. — Simple forms of Free Composition. — Song, March, Dance, Polonaise, Prelude, &amp;c.

*Two hours a week. 1 Senior, 1 Junior, 5 Sophomores, 1 Freshman.*

**Music 2. — ASST. PROF. PAINE.**

Simple Counterpoint.—Choral Figuration.—Imitation.—Double Counterpoint. — Canon. — Free Composition (Thematic Treatment, with analyses of the Sonatas, Rondos, &c., of the great masters).

*Three hours a week. 1 Senior, 3 Juniors.*

**Music 3. — ASST. PROF. PAINE.**

Fugue (in two, three, and four voices; Double Fugue, &c.). — Canon. — Sonata and Symphonic Forms. — Instrumentation.

*Three hours a week. 1 Senior.*

**Music 4. — ASST. PROF. PAINE.**

*History of Music.* — Gregorian Music — Mediæval and Modern Music.

*Three hours a week. 3 Seniors, 2 Juniors, 1 Sophomore.*

A knowledge of the Major and Minor keys, and some proficiency in piano or organ playing, will be required of students who wish to take Courses 1 and 4.

Course 4 may be taken with Course 1, 2, or 3, or independently.

## XI. THE FINE ARTS.

**Fine Arts 1. — MR. MOORE.**

*Principles of Design in Painting, Sculpture, and Architecture.* — Examples in Illumination, Landscape, and Figure Painting; and in Pottery, Carving, &c.

*Three hours a week. 10 Seniors, 10 Juniors, 9 Sophomores.*

**Fine Arts 2. — MR. NORTON.**

*The History of the Fine Arts, and their Relations to Literature.* — The beginnings of Architecture, Sculpture, and Painting: Oriental and Egyptian Art. — Greek Art: The Acropolis of Athens. — Roman Art. — Mediæval Art: Florence. — Breton's *Athènes décrite et dessinée*. — Viollet le Duc's *Entretiens sur l'Architecture*. — Vasari's *Lives of the Italian Painters*.

*Three hours a week. 22 Seniors, 10 Juniors, 2 Sophomores.*

Course 1 in the Fine Arts can be taken only by students who satisfy the instructor, by voluntary work with him, or by an examination, that they have already attained proficiency in Drawing.

Course 2 will require a fair knowledge of Greek, as well as facility in reading French.

## DEGREE OF BACHELOR OF ARTS.

*From the Regulations of the Faculty.*

No student shall be recommended for the degree of Bachelor of Arts until he has attained the minimum mark\* in each of the prescribed studies of the College course and of the prescribed number of elective studies, and has moreover obtained at least *one half* of the total maximum mark for the whole course from the time of his admission.†

Any student who has not complied with the requisitions for a degree before the end of his College course may be recommended for a degree in any subsequent year, when he shall have made up all conditions standing against him, and shall have passed all examinations which the Faculty may have required of him on account of his failure to obtain one half of the maximum mark for the whole course. Any such candidates for the degree of Bachelor of Arts may attend the exercises in any department of instruction in the College on payment of such fees as are required by the Corporation.

Persons recommended for the degree of Bachelor of Arts shall be divided into two classes,—those recommended for an *ordinary* degree, and those recommended for a degree *with distinction*. Those only shall be recommended for a degree *with distinction* whose scholarship for the whole College course entitles them to a part at Commencement.‡ This distinction shall be indicated in the diploma by the words *cum laude*.

Honors of two grades shall be awarded for special proficiency in any of the following departments: Ancient Languages; Classics; Modern Languages; Philosophy; History; Mathematics; Physics; Chemistry; Natural History. The requisitions for Honors shall be announced by the Faculty from time to time, at least two years' notice being given to each class. The department in which Honors are awarded, as well as the grade of the Honors, shall be stated in the diploma.

\* The minimum mark in a *prescribed* study is one-third of the maximum mark; in an *elective* study, two-fifths.

† Members of the Junior and Senior Classes of the year 1874-75 will be required to obtain one-half of the maximum mark for the *remainder of their course*, beginning with the academic year 1873-74, as a condition of being recommended for a degree.

‡ A part at Commencement is assigned to any student who attains *eighty hundredths* of the maximum mark for the whole College course, or *eighty-seven hundredths* of the maximum mark for the Junior and Senior years combined.



## HONORS.

SECOND-YEAR HONORS IN THE CLASSICS AND IN  
MATHEMATICS.

These Honors are open to Sophomores and Juniors, and to Seniors who intend to be candidates for Final Honors in some year after graduation; they are not open to Freshmen, except by special vote of the Faculty. They are awarded by the Faculty, on the recommendation of a special committee of examiners. The special examinations will be held toward the end of the academic year.

I. *Classics*. — Second-Year Honors are awarded in the *Classics* on two conditions. The first condition is excellence in the classical work of the Freshman year, and in the work of any two classical courses of the Sophomore or Junior year. The second condition consists in passing with distinction a special examination:—

(a.) In the translation at sight of passages taken from the less difficult Greek and Latin authors.

(b.) In Greek and Latin Prose Composition.

(c.) Either in the Philology of the Greek and Latin languages, or in Ancient History.

II. *Mathematics*. — Second-Year Honors are awarded in *Mathematics* on two conditions. The first condition is distinguished excellence in all the mathematical work of the Freshman year, and in the work of the first and second mathematical elective courses. The second condition consists in passing with distinction a special examination, partly written and partly oral, which will involve a moderate amount of work additional to that comprised in the regular courses, and may be extended to cover the whole mathematical knowledge of the candidates.

No one can be a candidate at graduation for Final Honors in the Classics or in Mathematics, who has not previously taken Second-Year Honors in the same department, nor for Final Honors in Ancient Languages who has not previously taken Second-Year Honors in the Classics.

Candidates for Second-Year Honors are required to register their names at the Dean's office as early as *the first of April* of the year in which they present themselves for examination.

For the year 1874 Second-Year Honors were assigned to the following students:—

[The names are arranged in the three Classes in alphabetical order.]

### IN CLASSICS.

#### *Class I.*

	Class.
LE BARON RUSSELL BRIGGS . . . . .	Junior.
HENRY THEOPHILUS FINCK . . . . .	Sophomore.
ROBERT HALLOWELL GARDINER . . . . .	"
FRANCIS CABOT LOWELL . . . . .	"

#### *Class II.*

EDWARD BROWN LEFAVOUR . . . . .	Sophomore.
ALFRED ALLISON WHEELER . . . . .	"

#### *Class III.*

MARCUS PERCIVAL BENNETT . . . . .	Sophomore.
WILLIAM LEVERETT CHASE . . . . .	"
LOREN GRISWOLD DUBOIS . . . . .	"
GEORGE WALTON GREEN . . . . .	"
WILLIAM RUSSELL MORSE . . . . .	"

### IN MATHEMATICS.

#### *Class I.*

HAROLD WHEELER . . . . .	Freshman.
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#### *Class II.*

PHILIPPE BELKNAP MARCOU . . . . .	Sophomore.
BENJAMIN OSGOOD PEIRCE . . . . .	"

#### *Class III.*

PERCIVAL LOWELL . . . . .	Sophomore.
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### FINAL HONORS.

*Special Honors*, of two grades, will be given at graduation for great proficiency in any one of the following Departments:—I. Ancient Languages, II. Classics, III. Modern Languages, IV. Philosophy, V. History, VI. Mathematics, VII. Physics, VIII. Chemistry, IX. Natural History.

A candidate for these Honors in any Department must satisfy the following requisitions:—

I. He must have passed *with distinction* examinations: (a) on all the prescribed work of the College in that Department; (b) on Elective

Courses in that or kindred Departments,\* equivalent, if the Department be Modern Languages or Mathematics, to *nineteen hours* per week for one year; if it be Ancient Languages or Classics, to *eighteen hours*; if it be History or Natural History, to *seventeen hours*; if it be Physics or Chemistry, to *sixteen hours*; if it be Philosophy, to *fifteen hours*.

II. If the Department be Classics, the candidate must be able to read ordinary Greek and Latin at sight, and to write Greek and Latin Prose; if it be Modern Languages, he must be able to read French and German at sight, and to write French and German, and must farther offer himself for examination in Italian, Spanish, or English.

III. If the Department be Classics or Mathematics, he must have taken Second-Year Honors in the Department; if it be Ancient Languages, he must have taken Second-Year Honors in Classics.

IV. Whatever be the Department, the candidate must present such Theses as may be required of him, and must also, near the close of the Senior year, pass an examination, before a committee of the Faculty, on the subject in which he offers himself for Honors, for the purpose of testing the range and accuracy of his knowledge of it. This examination may be either oral, written, or by experimental work, as the committee shall determine.

In the year 1875 Honors will be awarded also (for the last time) in the Departments of Physics and Chemistry combined. The terms on which they are granted have been announced in previous years.

\* The Elective Courses which candidates for Honors in the several Departments are required to take, and those which they are allowed to substitute from other Departments, are as follows:—

*Ancient Languages.*—If either Hebrew or Sanskrit be offered, it must have been studied for two years.

*Classics.*—Either Course 2 in Philosophy (Ancient Philosophy) or a Course in Sanskrit may be substituted for courses of the same number of hours in the Classics.

*Philosophy.*—Course 7 in Greek may be substituted in place of one Elective in Philosophy.

*History.*—Course 5 in Latin or Course 7 in Philosophy may be substituted for courses of the same number of hours in History.

*Mathematics.*—Courses 1, 2, 5, 6, and 10, and, in addition, Junior and Senior Courses equivalent to ten hours per week for one year, are required. Physics 1 will be accepted in place of a two-hour elective in Mathematics, provided the mathematical electives in Mechanics are also taken.

*Physics.*—Courses 1, 3, 4, and 5 in Physics, together with Course 1 in Mathematics, are required; the remaining three hours may be taken in Physics, Mathematics, or Chemistry.

*Chemistry.*—Courses amounting to at least eleven hours must be taken in the Department of Chemistry; the remaining five hours may be taken in Chemistry, Physics, Mathematics, or Natural History.

*Natural History.*—Course 2 is required of all candidates. Course 3 in Chemistry may be substituted for one elective in Natural History.

Students, who have failed to pass with distinction any of the examinations required for Honors, may, with the consent of the Faculty, make up their deficiencies by passing such additional examinations as may be required of them; but no such permission will be granted for failures occurring after the beginning of the Senior year.

Honors, however, will be given to graduates not entitled to Honors at graduation who shall have complied with all the requisitions for Honors in any department in some subsequent year.

Every student who desires to be regarded as a candidate for Honors at graduation must register his name at the Dean's office before the *first day of June* in his Junior year.

At Commencement, 1874, Honors were assigned to members of the Graduating Class as follows :—

## IN CLASSICS.

*Highest Honors.*

LOUIS DYER.

HOSEA BALLOU MORSE.

WILLIAM RICHMOND.

*Honors.*

WILLIAM FITZHALE ABBOT.

SAMUEL EDWIN WYMAN.

## IN MODERN LANGUAGES.

*Honors.*

GIORGIO ANACLETO CORRADO BENDELARI.

LOUIS DYER.

## IN PHILOSOPHY.

*Highest Honors.*

LOUIS DYER.

ERNEST FRANCISCO FENOLLOSA.

## IN HISTORY.

*Honors.*

GIORGIO ANACLETO CORRADO BENDELARI.

THOMAS CARY.

EDWARD WARREN CATE.

SAMUEL BELCHER CLARKE.

FREDERICK LAWTON.

## IN PHYSICS AND CHEMISTRY.

*Honors.*

DAVID LITTLE WITHINGTON.

## PECUNIARY AID.

The experience of the past warrants the statement that good scholars of high character but slender means are seldom or never obliged to leave College for want of money.

## SCHOLARSHIPS.

Ninety-two Scholarships have been established in the College, varying in their annual income from forty dollars to three hundred :—

*Saltonstall Scholarships.* Two founded by Mary and Leverett Saltonstall, with an income of one hundred and fifty dollars each.

*Pennoyer Scholarships.* Four from the annuity of William Pennoyer; two of them with an income of eighty-five dollars, and two with an income of seventy-five dollars each.

*Alford Scholarship.* Founded by Joanna Alford, in 1785, with an income of forty dollars.

*Abbot Scholarship.* Founded by persons educated at Phillips Exeter Academy, with an income of one hundred and fifty dollars.

*Scholarship of the Class of 1802.* Founded by the Class of 1802, with an income at present of two hundred and fifty dollars.

*Scholarship of the Class of 1814.* Founded by the Class of 1814, with an income of two hundred dollars.

*Kirkland Scholarship.* Founded by the Class of 1815, with an income at present of two hundred and fifty dollars.

*Scholarship of the Class of 1817.* Founded by the Class of 1817, with an income of two hundred dollars.

*Scholarship of the Class of 1835.* Founded by the Class of 1835, with an income of one hundred and fifty dollars.

*Shattuck Scholarships.* Eight from a bequest of Dr. George Cheyne Shattuck, with an income of one hundred and fifty dollars each.

*Walcott Scholarships.* Two from a bequest of Samuel Baker Walcott, with an income of one hundred dollars each.

*Thayer Scholarships.* Twelve founded by John Eliot Thayer, with an income of three hundred dollars each.

*Bowditch Scholarships.* Twenty-two with an income of two hundred and fifty dollars each, founded by a friend of the College.

*Townsend Scholarships.* Six with an income of two hundred and fifty dollars each, founded by Mary P. Townsend.

*Story Scholarship.* Founded by Augustus Story, with an income of one hundred and fifty dollars.

*Scholarship of the Class of 1841.* Founded by the Class of 1841, with an income of about one hundred and twenty-five dollars.

*Gorham Thomas Scholarship.* With an income of two hundred and fifty dollars.

*Bigelow Scholarships.* Three from a bequest of Tyler Bigelow, with an income of two hundred and fifty dollars each.

*Toppan Scholarship.* Founded by Mrs. Ann Toppan, with an income of three hundred dollars.

*Sever Scholarship.* Founded by James Warren Sever, with an income of one hundred and fifty dollars.

*Sewall Scholarships.* Two founded by Samuel Sewall, with an income of two hundred and fifty dollars each.

*Hollis Scholarships.* Two founded by Thomas and Nathaniel Hollis, with an income of one hundred and twenty-five dollars each.

*Browne Scholarship.* Founded by William Browne and his descendants.

*Morey Foundation.* From a bequest of George Morey, yielding about five hundred dollars, which may be divided into two Scholarships.

*Matthews Scholarships.* Twelve founded by Nathan Matthews, with an income of three hundred dollars each.

*Farrar Scholarship.* Founded by Mrs. Eliza Farrar in memory of Prof. John Farrar, with an income of about three hundred and fifty dollars.

*James Savage Scholarship.* Founded by James Savage, with an income of three hundred dollars.

None but those who need assistance are expected to apply for Scholarships; and among applicants the highest scholars on the work of the preceding year have the preference. The assignment of some of the Scholarships, however, is affected by special provisions.

No student who has incurred a serious college censure in the course of the year will be considered a candidate for a Scholarship; nor any student who obtains leave of absence for the year in which the scholarship would be payable.

Applications from persons who wish to be considered candidates will be received *on or before the first day of June* of each year. The nominations and appointments are made at the end of each academic year, as soon as the scales of rank for the year are prepared; except that the Bigelow Scholarships are awarded by the Corporation to Freshmen soon after their entrance. The successful candidates for other Scholarships receive one-third of the annual income immediately upon the assignment of the Scholarships, and the remaining two-thirds on the first of April following. The Scholarships for the Senior Class are assigned before Commencement, as soon as the annual scale for that class can be prepared, and the entire annual income of the Scholarships so assigned is paid immediately. [*Beneficiary Funds* must be applied for separately.]

The Scholarships, when voted, are understood to cover the College year just ended ; but the enjoyment of a Scholarship for one year will not constitute any title to a second nomination, unless the superiority for which it was originally awarded be fully maintained.

### BENEFICIARY FUNDS.

Various other bequests and donations to the College have from time to time been made, the income of which is appropriated for the aid of deserving students in narrow circumstances. The annual amount thus appropriated is about seven hundred and fifty dollars, which has usually been distributed in gratuities ranging from fifty to one hundred dollars.

Applications for aid from the Beneficiary Fund are addressed to the Dean, and must be presented to him on or before *the first day of June*, by the student's parent or guardian, or by the student himself if of age. The application should state particularly the circumstances of the case, with the reasons for asking aid.

### LOAN FUND.

In addition to the Beneficiary Funds above mentioned, there is a Loan Fund, the interest of which, amounting annually to more than two thousand dollars, is lent to meritorious students desirous of receiving it, in sums ranging from fifty to one hundred and fifty dollars. This fund is under the control of a Board of Trustees, in Boston ; Hon. John Lowell, Treasurer. More than eight thousand dollars have been already added to the principal by reimbursements.

The applications for the Loan Fund should be left with the Dean as early as *the first day of February*.

"The trustees of the fund for assisting students at Harvard College request applicants for loans to observe the following rules :—

"1. To address their applications to the Treasurer of the Loan Fund, Hon. John Lowell, Boston, and give them to the Dean.

"2. To set forth their circumstances fully, as they would do on making application to an individual for like aid.

"3. To state what aid they have received, or expect to receive, from the College.

"4. If an applicant is under twenty-one years of age, his application must be accompanied by the written approval of his parent or guardian."

### MONITORSHIPS, ETC.

Besides the foregoing provisions for the aid of meritorious students, the various monitorships, &c., amount to about twelve hundred dollars a year, which may be considered an addition, to that extent, to the beneficiary means of the College.

## P R I Z E S.

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### I. DETURS.

A distribution of books called *Deturs* is made from the income of the Hopkins Foundation, near the commencement of the academical year, to meritorious Students of one year's standing. Thirty-seven *Deturs* were given in the Sophomore Class, and one in the Junior Class, the last year.

*Deturs* are also given to such members of the Junior Class as not having received them in the Sophomore year shall, in the course of that year, make decided improvement in scholarship.

### II. BOWDOIN PRIZE DISSERTATIONS.

Eight Prizes will be assigned from the Foundation of James Bowdoin, as follows; provided so many Dissertations or Translations be deemed worthy of prizes by the judges:—

I. A prize of *one hundred dollars* for the best Dissertation by a Resident Graduate of the University, or by a member of the Senior Class of 1874-75, on any of the subjects for Dissertations mentioned below.

II. Three prizes of *fifty dollars each* for the best Dissertations by members of the Senior or Junior Class of 1875-76, on any of the following subjects:—

1. *The Rank of England as a European Power between the death of Elizabeth and the death of Anne.*

2. *The Principles of Federal Government, as exemplified and illustrated in America and Europe since 1781.*

3. *How far Psychology has been affected by the recent discoveries in Physiology.*

4. *How much is Unconscious, or seemingly Unconscious, in Mental Action, and what is the proper Theory of such Unconsciousness?*

5. *The Theory and History of Paper Money, and the best Means of reverting to Specie Payment.*

6. *The Poetry of the Nineteenth Century.*

7. *The Personal History of John Milton.*

III. Two prizes of *fifty dollars each* for the best Dissertations or Translations, by members of the Senior or Junior Class of 1875-76, on any of the following subjects:—



1. *Schliemann's Excavations at Troy.*
2. *Recent Views of the Character of Tiberius.*
3. *Modern Value of Aristotle's Politics.*
4. *A Translation into Latin from the Preface to Macaulay's "Virginia,"* beginning, "*The Plebeians had also this advantage ;*" and ending, "*the factions of the infant republic.*"
5. *A Translation into Attic Prose, from Gibbon's "Roman Empire,"* chapter XXV., of the passage beginning, "*The tranquillity of the East*" (Vol. III., p. 237, edition of 1854), and ending "*the pity and indignation of mankind*" (p. 242).
6. *Quibus maxime rebus oratores antiqui a Cicerone in Bruto, et recentiores a Tacito in Dialogo memorati inter se differant.*

IV. Two prizes of *fifty dollars each* for the best Dissertations by members of the Senior or Junior Class of 1875-76, on any of the following subjects : —

1. *The Transits of Venus.*
2. *Recent Thermo-chemical Investigations.*

Dissertations offered by *Seniors of 1874-75* for the first prize *must* be deposited with the Dean on or before Commencement, 1875. All other Dissertations (including those offered by Graduates of 1875 who actually continue their residence) for these prizes *must* be deposited with the Dean on or before the *first day of November, 1875*. The title-page must, with an assumed name, state the standing of the writer, as Graduate or Undergraduate, and, if the latter, of what class. A sealed letter must be sent in at the same time, under cover with the Dissertation, containing the true name of the writer, and superscribed with his assumed name.

The Dissertations must be written upon letter-paper of good quality, of the quarto size, with a margin of not less than one inch at the top and bottom, and on each side, so that, if successful, they may be bound up without injury to the writing. The sheets on which the Dissertation is written must be securely stitched together.

The Dissertations must not exceed in length the amount of twenty-five printed pages of the North American Review.

No prizes were assigned for the last academical year.

#### COMMITTEES OF LAST YEAR.

*Literary, Historical, and Philosophical.* — J. Eliot Cabot, Esq. ; Prof. F. J. Child ; Joseph B. Warner, Esq.

*Scientific.* — Prof. Wolcott Gibbs ; Prof. Joseph Winlock ; Chauncey Wright, Esq.

*Classical.* — Prof. E. A. Sophocles ; Prof. G. M. Lane ; Prof. William Everett.

### III. BOYLSTON PRIZES FOR ELOCUTION.

On the day before Class Day in each year there is a public exhibition and trial of the skill and proficiency of the Students of the College in elocution, at which the Boylston Prizes are awarded.

The speakers are not to rehearse their own compositions ; but to select pieces in prose or verse from English, Greek, or Latin authors, the selections to be approved by the Boylston Professor of Rhetoric and Oratory. The proportion in English is to be at least two out of three.

The competitors must be Graduates of the year, or Undergraduates of one of the next two classes ; and their names must be entered with the Professor, at the latest, *fourteen days* before Class Day. No applications will be received after that time.

The Corporation, and five gentlemen selected by the Corporation, will act as judges and award the prizes as follows : —

Two First Prizes, of *sixty dollars* each ; and three Second Prizes of *forty-five dollars* each. The First Prizes may be withheld if none of the competitors appear to deserve them.

At this exhibition, no prompting of the speakers will be allowed ; and a failure of memory in any one will exclude him from being considered in the assignment of the prizes.

The following prizes were assigned June 18, 1874 : —

#### FIRST PRIZES.

ERNEST FRANCISCO FENOLLOSA, *of the Graduating Class.*

THOMAS FENTON TAYLOR, *of the present Senior Class.*

#### SECOND PRIZES.

FRANCIS DUMARESQ, *of the present Senior Class.*

ARTHUR BLAKE ELLIS, *of the present Senior Class.*

WILLIAM HENRY HOLMAN, *of the present Senior Class.*

### IV. LEE PRIZES FOR READING.

Five Prizes of \$25 each, and five of \$15 each, are annually awarded to Freshmen for excellence in reading aloud English prose ; provided that in each case as many as five competitors are deemed worthy of Prizes.

At the last trial Prizes were awarded as follows : —

#### FIRST PRIZES.

FRANCIS HENRY GARRETT.

ALFRED GOODING.

PARKER WEBSTER PAGE.

ROBERT TALLANT.

JAMES WISE WALKER.

## PUBLIC WORSHIP.

## SECOND PRIZES.

SAMUEL NEWTON CUTLER.

FRANK CORNELIUS HATCH.

HENRY BURDEN McDOWELL.

EDWARD HENRY STROBEL.

WILLIAM NYE SWIFT.

*Members of the present Sophomore Class.*

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PUBLIC WORSHIP.

There are daily devotional services in Appleton Chapel, at which all Undergraduates of the College are required to be present. Undergraduates are permitted to pass Sundays with their families, or with families designated by their parents or guardians. Undergraduates who do not pass Sundays with their families are required to attend public worship once on Sunday. Each Student may select his own place of worship if he be of age; if he be a minor, the selection is to be made by his parent or guardian. Seats are provided at the expense of the College for all Undergraduates who attend the Sunday services of the several religious denominations having established places of worship in the immediate vicinity of the College.

## EXPENSES.

The necessary expenses of an Undergraduate, not including clothing and cost of living in the Summer Vacation, are from \$400 to \$650 a year.


The chief items are the following :—

Instruction, Library, Lecture-rooms, Gymnasium, &c.,	\$150.00	\$150.00
Rent and care of Room, in the College Buildings (with chums) . . . . .	from	30.00 to 100.00
Board for 88 weeks . . . . .	„	152.00 „ 304.00
Text-books (average) . . . . .	„	20.00 „ 25.00
Total . . . . .	„	\$352.00 „ 579.00

Other expenses must vary with the economy of each student. Wood and coal ready for use are delivered at the students' rooms, by Cambridge and Brighton dealers, at market prices. The rent of furnished rooms in private houses in the immediate vicinity of the College is from \$75 to \$250 per annum. By going half a mile from the College the student may get cheaper rooms. The price of board at present is from \$4.00 to \$8.00 a week. Students living in College buildings find their own beds and furniture.

The completion of the main portion of Memorial Hall enables a larger number of students than ever before to obtain board at cost. The Dining-Hall Association has over five hundred members, including both undergraduates and students of the professional schools; and it is expected that the cost of board per week will not much exceed four dollars.

## COLLEGE BILLS.

 The bills containing College charges are made out by the College Steward, and are to be called for at his office. The first bill, which will include two-thirds of the annual charges, will be ready for delivery on March 15, and is to be paid on or before April 5. The second bill, which will include one-third of the annual charges, will be ready for delivery one week before Commencement, and is to be paid on or before October 10; but the second bill of the *Senior year* must be paid at least one day before Commencement. Students who leave College before graduating must pay in full all College bills at the time of leaving.

The Steward is authorized to make the following deductions from the full year's tuition-fee in Harvard College, in cases of absence during part of the year, without regard to the cause of absence : —

For absence from the beginning of the year until April 1, \$75 to be deducted.

For absence for three months or more between the beginning of the year and April 1, \$50 to be deducted.

For absence from April 1, to the end of the year, or to the annual examinations in June, \$25 to be deducted.

For absence for the whole year except the examinations, \$100 to be deducted.

Students claiming deductions as above must file at the Steward's office a certificate from the Dean as to the fact and duration of absence.

#### ASSIGNMENT OF COLLEGE ROOMS FOR 1875-76.

Students living in College Buildings, who wish to re-engage for the Academic Year 1875-76 their present rooms, must call at the Steward's office, sign a new room-agreement, and take a new certificate of assignment *before April 1, 1875.*

In case of chums, *both must sign* the room-agreement, in order to complete the re-engagement of the room. Members of the Senior Class can re-engage their present rooms, or apply for other rooms, provided they intend to remain in Cambridge during the next year, and to personally use the rooms; but they must file a statement to that effect at the Steward's office before re-engaging or applying.

On April 1 will be made out a list of college rooms, not re-engaged as above, for which members of the College and of the Scientific and Mining Schools can apply. This list will contain a fair proportion of all the good rooms not re-engaged, and will include all the vacant Holworthy rooms. The list will be printed, and will be given to all who ask for it at the Steward's office after April 5. Blank forms of application for rooms will be given out at the same time, and no applications will be considered unless made upon such blanks. Undergraduates and members of the Scientific and Mining Schools who wish to apply for rooms must drop their applications into the Steward's letter-box *before April 15, 1875.* On April 15 the assignment of rooms will be made, absolutely by lot. Public notice of the result of the allotment will be given as soon as possible, and no student will be entitled to the room assigned to him unless the agreement covering the whole rent of the room shall have been signed at the Steward's office, and a certificate of assignment taken *before April 25, 1875.*

On April 26 will be made out a list of rooms available for persons intending to enter College in the summer of 1875. This list will be printed,

and with blank forms of application, and price-lists, will be ready for delivery from the Steward's office after May 1, 1875. Upon request, the list and blanks will be mailed to any address. Applications on these blanks must be sent, by mail or otherwise, to the Steward of the College *before May 15, 1875*. On May 15 the allotment will be made. Applicants will be notified as soon as possible of the result of the allotment, and a blank form of agreement and bond will be forwarded at the same time. No applicant will be entitled to the room assigned to him unless the agreement and bond shall be duly executed and delivered at the Steward's office *before June 1, 1875*. This agreement binds the applicant to retain his room for one year, and pay the full rent in case he enters College; and in case of failure to enter College, to transfer the room at the Steward's office to some member of the College, or to forfeit one quarter's rent.

On and after June 2, 1875, vacant rooms will be assigned according to priority of application.

Students are advised not to engage rooms until they have fully decided that they wish to occupy them, as the College rules require every student who engages a room to pay the full year's rent whether he uses the room or not. The Steward is authorized to make exceptions to this rule only in the following cases: 1st, where the tenant substitutes for his own a new room-agreement, covering the full year's rent, and signed by some member of the College who has no other room; 2d, where the tenant permanently takes up his connections with the College before the beginning of the academic year for which the room was assigned, or before the beginning of that year obtains a leave of absence, or is suspended for the whole of that year. In such cases the student must at once notify the Steward that he wishes to cancel his room-agreement. In case of chums, when one cancels his room-agreement as above, the agreement of the other will be considered as cancelled also. The remaining chum will be allowed, by at once signing a new room-agreement, to engage the room alone or with a new chum, but if he does not at once re-engage it the Steward will be at liberty to assign it to other tenants.

Within reasonable limits the College rules allow transfers of rooms, and exchanges of rooms allotted for rooms of about equal value left vacant after allotment. But all such transfers and exchanges must be made at the Steward's office before the beginning of the academic year, as the full year's rent and all charges for gas or damages will be collected from those to whom the rooms stand charged on the Steward's books at the beginning of the year. In cases of transfers or exchanges made after the beginning of the year, the necessary money settlements must be made by private agreement between the students.

## PRICES OF COLLEGE ROOMS

*For the Academic Year 1875-76.*

In each case the price is for the whole room for one year, and includes the daily care of the room. Rooms in Divinity Hall are rented to Divinity students for \$5 less than the prices named below.

- \$25. College House, Nos. 13, 35.
- \$44. Hollis and Stoughton, Nos. 1, 2, 3, 4, 17, 18, 19, 20.
- \$45. College House, Nos. 57, 58.
- \$50. College House, Nos. 22, 44, 66; Divinity Hall, Nos. 6, 8, 10.
- \$55. Divinity Hall, Nos. 4, 12.
- \$56. Hollis and Stoughton, Nos. 13, 14, 16.
- \$60. { Hollis and Stoughton, Nos. 5, 6, 8, 9, 10, 12, 22, 23, 24, 26, 27,  
28; College House, Nos. 3, 4, 7, 8, 9, 10, 15, 16, 18, 19, 20, 25,  
26, 27, 28, 30, 31, 32, 37, 38, 39, 40, 41, 42, 46, 48, 50, 52, 54,  
60, 62, 64, 70; Divinity Hall, Nos. 2, 3, 11, 14, 20, 22, 24, 34,  
38; Grays, 33, 35.
- \$65. Divinity Hall, Nos. 1, 13, 18, 19, 21, 23, 26, 28, 32, 33, 37, 40, 42.
- \$70. College House, Nos. 11, 12, 33, 34, 47, 49, 51, 53, 59, 61, 63, 67,  
68, 69; Divinity Hall, Nos. 17, 25, 31, 39.
- \$75. { Hollis and Stoughton, Nos. 11, 15, 25; College House, Nos. 1, 2, 21,  
23, 29, 43, 45, 55, 65; Divinity Hall, Nos. 16, 27, 30, 41; Grays,  
Nos. 3, 13, 15, 17, 19, 34, 37, 49, 51; Weld, Nos. 25, 26, 52, 53.
- \$80. Divinity Hall, Nos. 15, 29.
- \$100. { Grays, Nos. 1, 7, 11, 14, 18, 21, 23, 25, 27, 29, 31, 36, 39, 41, 45;  
Weld, Nos. 24, 27, 51, 54; Matthews, Nos. 27, 28, 57, 58;  
Wadsworth House, Nos. 9 and 10, 11 and 12.
- \$125. { Grays, Nos. 2, 9, 16, 22, 26, 30, 40, 47, 50, 52; Matthews, Nos.  
25, 26, 29, 30, 55, 56, 59, 60; Holyoke, Nos. 1, 2.
- \$150. { Grays, Nos. 4, 6, 8, 10, 12, 20, 28, 32, 38, 42, 44, 46, 48; Hol-  
worthy, Nos. 1, 2, 9, 10, 17, 18; Holyoke, Nos. 3, 11, 39, 40,  
44, 45; Thayer, Nos. 17, 18, 19, 20.
- \$175. { Thayer, Nos. 23, 24, 30, 35, 36, 41, 42, 47, 48, 53, 59, 60, 65, 66;  
Weld, Nos. 3, 5, 8, 13, 14, 19, 20, 30, 32, 34, 35, 40, 41, 46, 47;  
Holyoke, Nos. 12, 28, 29, 34.
- \$200. { Thayer, Nos. 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 21,  
22, 25, 26, 27, 28, 31, 32, 33, 34, 37, 38, 39, 40, 43, 44, 45, 46,  
49, 50, 51, 52, 55, 56, 57, 58, 61, 62, 63, 64, 67, 68; Holworthy,  
Nos. 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 19, 21, 22, 23, 24; Mat-  
thews, Nos. 3, 4, 10, 16, 22, 33, 34, 46, 52; Holyoke, Nos. 7,  
17, 18, 22, 23, 37, 41, 42, 43, 46, 47; Wadsworth House,  
Nos. 1 and 2, 3 and 4, 5 and 6, 7 and 8, 13, 14.
- \$225. { Weld, Nos. 4, 6, 9, 12, 15, 18, 21, 22, 23, 31, 33, 39, 42, 45,  
48, 49, 50; Matthews, Nos. 5, 6, 9, 15, 19, 20, 21, 39, 45,  
49, 50, 51; Holyoke, Nos. 26, 30, 31, 32, 35, 36.
- \$250. { Weld, Nos. 1, 2, 10, 11, 16, 17, 23, 29, 37, 38, 43, 44; Mat-  
thews, Nos. 1, 2, 8, 13, 14, 23, 24, 31, 32, 35, 36, 37, 38, 43,  
44; Holyoke, Nos. 4, 9, 10, 13, 14, 15, 20, 21, 24, 25, 38.
- \$275. Matthews, Nos. 53, 54; Holyoke, Nos. 8, 19.
- \$300. { Matthews, Nos. 11, 12, 17, 18, 41, 42, 47, 48; Holyoke, Nos.  
5, 16, 27.

# DIVINITY SCHOOL.

## FACULTY.

CHARLES W. ELIOT, LL.D., *President.*  
 OLIVER STEARNS, D.D., *Dean, and Parkman Professor of Theology.*  
 FREDERIC H. HEDGE, D.D., *Professor of Ecclesiastical History.*  
 EZRA ABBOT, D.D., LL.D., *Bussey Professor of New Testament Criticism and Interpretation.*  
 EDWARD J. YOUNG, A.M., *Hancock Professor of Hebrew, and Dexter Lecturer on Biblical Literature.*  
 CHARLES C. EVERETT, D.D., *Bussey Professor of Theology.*  
 JAMES JENNISON, A.M., *Librarian.*

## STUDENTS.

### Senior Class.

Brooks, John Graham,	Acworth, N. H.,	D. 29.
Christy, Cyrus William, A.B. ( <i>Antioch Coll.</i> ),	Cambridge,	D. 21.
Dunbar, Josiah Newell,	Roxbury,	D. 40.

### Middle Class.

Cumings, John Osgood,	Westford,	D. 19.
Dillingham, Pitt, A.B. ( <i>Dartmouth Coll.</i> ),	Augusta, Me.,	D. 17.
Hale, William Gardner, A.B.,	Cambridge,	H'ke 88.
Moulton, Joseph Sidney, A.B. ( <i>Dart. Coll.</i> ),	Plainfield, N. H.,	D. 23.
Reeby, William Henry,	Worcester,	D. 41.

### Junior Class.

Heizer, Cyrus Whittlesey,	Kossuth, Iowa,	D. 20.
Hiatt, Joel Willis, A.B. ( <i>Wabash Coll.</i> ),	Crawfordsville, Ind.,	D. 12.
Hoyt, Henry Nelson, A.B. ( <i>Olivet Coll.</i> ),	Muir, Mich.,	D. 37.
Lloyd, William James, A.B.,	Allentown, Pa.,	D. 31.
Pratt, John Mason Williams, A.M.,	West Newton,	D. 22.
Sinclair, Charles Frederic,	Chicago, Ill.,	D. 30.
Snyder, Thomas,	Clarence Centre, N. Y.,	D. 32.

### Special Students.

Gordon, Gustavus Ede,	Brooklyn, N. Y.,	D. 20.
Leslie, Andrew Macbeth,	St. Louis, Mo., 44 Mt. Auburn St.	
Royce, George Munroe,	Wheeling, West Va.,	D. 18.
Vinton, George Arthur,	Boston,	D. 39.

### Resident Graduate.

Seward, Josiah Lafayette, A.M., B.D.,	Cambridge,	D. 24.
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## TERMS OF ADMISSION.

Candidates for admission to the Divinity School are expected to present themselves on the first day of the academic year. If unknown to the Faculty, they are to produce testimonials of their moral and serious character.

All Bachelors of Arts will be admitted without examination. Other candidates for admission to the full course must have received a good English education, and must also pass an examination in some of the Latin classical authors, and in the Greek Text of the Gospels.

Any person competent to pursue to advantage a partial course will be admitted, for a period of not less than one year, simply on producing satisfactory evidence of character and promise. He shall pursue such studies as the Faculty may prescribe, and may receive, on passing satisfactory examinations, a certificate stating the length of time he has studied in the School.

Candidates for admission to an advanced standing must be acquainted with the studies previously pursued by the class which they propose to enter.

## COURSE OF INSTRUCTION.

The course of instruction comprises Lectures, Recitations, written Essays, and other exercises, on all the subjects usually included in a system of Theological Education, embracing, —

The Hebrew Language ;

The Principles of Criticism and Interpretation ;

The Literature, Canon, and Exegesis of the Old and New Testaments ;

Biblical Archæology and Geography ;

Natural Religion and the Evidences of Revealed Religion ;

The Philosophy of Religion ;

Systematic Theology ;

Philosophical and Christian Ethics ;

The Ethnic Religions, and the Creeds of Christendom ;

Ecclesiastical History, and the History of Christian Doctrine ;

Church Polity and Administration ;

The Composition and Delivery of Sermons ; Liturgies and the offices of Public Worship ; and the duties of the Pastoral Office.

In Elocution Professor Baxter gives instruction every week.

Devotional services are held daily in the chapel of Divinity Hall ; conference meetings are also regularly held ; both of which are attended by the Professors and students. All the members of the School have exercises in the practice of Extemporaneous Speaking, and the members of the Middle and Senior Classes preach in turn in the chapel.

The students have access to the Divinity Library, which consists of 16,000 volumes, and also to the College Library, which consists of 148,000 volumes.

The Full Course occupies three years, on completing which to the satisfaction of the Faculty students are entitled to the degree of Bachelor of Divinity.

Students may remain, after completing their course, and continue their studies during a fourth year under direction of the Faculty.

The instruction given in the other departments of the University, with the exception of exercises carried on in the special laboratories, is also open, without additional charge, to students of the Divinity School. Those who wish to avail themselves of this privilege must procure from the Dean a certificate of membership in the School.

### DEGREES.

The degree of Bachelor of Divinity will be conferred by the University on those students who shall have pursued a course of Theological study for at least one year in this School, and who shall pass the required examination. It will also be conferred on former graduates, who shall show that they are qualified for it. Applicants for the degree must, four weeks before Commencement, present their names, with a Theological Thesis, to the Faculty, and must be prepared to be examined at such times as may be appointed by the several professors.

The examination will be both oral and written, —

In the Hebrew, Greek, Latin, and German languages, including translations from portions of the Pentateuch and Psalms, from the New Testament in Greek, from the Vulgate in Latin, and from some standard work of Theology in German;

In the Literature and Exegesis of the Old and New Testaments;

In the History of the Church antecedent to the Reformation;

In the History and Grounds of Opinion in Natural Theology and Christian Doctrine, and in the External and Internal Evidences of Christianity;

In the Philosophy of Religion;

In the History of Ethnic Religions;

In the History and Principles of Moral Science, and the Ethics of Christianity;

In Homiletics, Liturgies, Church Organization and Government.

The degree of Master of Arts will be conferred upon persons who, being both Bachelors of Arts and Bachelors of Divinity, shall pursue at the University, for at least one year, an approved course of study in Divinity, and shall pass an examination upon that course. The degree of Bachelor of Divinity must have been given by this University; that of Bachelor

of Arts, by this University, or by an institution having an equivalent course of study for the degree of Bachelor of Arts.

Applications for this degree should be addressed to Professor J. M. PEIRCE, Secretary of the Academic Council. For further information see pages 135-138.

### PECUNIARY AID.

Pecuniary aid is afforded from various sources.

The income of the Hopkins Fund is awarded by a Board of Trustees to six students, who must need aid, who must have received the degree of A.B. or A.M., and have given evidence of diligent and successful study. The shares will probably amount to at least three hundred and fifty dollars each.

The income of the Williams Fund is awarded by the Society for promoting Theological Education to students, recommended by the Faculty, who comply with the requisitions of that Society. According to the terms of this bequest, the income is to be given to "such indigent students as shall be preparing themselves for the ministry, and shall be deemed most meritorious and worthy of assistance;" and "no student shall be debarred of this charity by reason of not having had a degree at a college, or being educated at any other college, or entertaining any peculiar modes of faith, it being always understood that he must be a Protestant." The annual income of the Williams Fund will allow about one hundred and fifty dollars to each beneficiary, but the sum will vary with the number of candidates.

There are also nine scholarships established in the School, varying in their annual income from one hundred and twenty-five to two hundred and sixty dollars. They are assigned by the Corporation, on the recommendation of the Faculty, to those students who are deserving, and who need assistance.

These Scholarships are:—

The CHAPMAN SCHOLARSHIP, founded by the Rev. George Chapman, with an income of one hundred and forty dollars.

Two CARY SCHOLARSHIPS, founded by Thomas Cary, Esq., with an income of one hundred and seventy-five dollars each.

Three SCHOLARSHIPS ON THE JACKSON FOUNDATION, founded by Miss Sarah Jackson, with an income of two hundred and sixty dollars each.

The CLAPP SCHOLARSHIP, founded by Josiah Clapp, Esq., with an income of one hundred and twenty-five dollars.

The KENDALL SCHOLARSHIP, founded on the donation of Miss Nancy Kendall, with an income of one hundred and forty dollars.

The JONAS H. KENDALL SCHOLARSHIP, founded by Jonas H. Kendall, Esq., with an income of one hundred and forty dollars.

In some cases beneficiary aid from more than one of the above sources may be given to a single student.

In special cases some assistance from other sources may be obtained for students who give promise of usefulness; and all who are qualified to enter upon the regular course, and who faithfully pursue it, may be enabled to meet their necessary expenses.

Applications for scholarships and for pecuniary aid must be addressed in writing to the Dean, before March 1.

The Society for promoting Theological Education in Harvard University, by which the Divinity School was founded, declared in its constitution that the funds of the School should be appropriated "to assist young men of competent talents, pure morals, and piety, in preparing themselves for the Christian ministry;" and it prescribed that "every encouragement be given to the serious, impartial, and unbiassed investigation of Christian truth, and that no assent to the peculiarities of any denomination of Christians shall be required either of the Instructors or Students."

### BONDS AND EXPENSES.

Students are required to reside in or near Divinity Hall. Each student must give a bond in the sum of two hundred dollars, signed by two bondsmen, one of whom must be a citizen of Massachusetts, for the payment of term-bills; or, in place of a bond, deposit with the College Steward a sum of money sufficient for the payment of all dues to the University. A copy of the class-books, with the exception of the Hebrew and Greek Scriptures, will be furnished on loan.

The chief items of expense for the year are:—

For rent and care of room . . . . .	\$60.00
For tuition . . . . .	50.00
For board at \$3.75 a week . . . . .	142.50
For fuel . . . . .	25.00
	<hr/>
	\$277.50

To which are to be added the expenses of washing and gas.

The price of rooms in Divinity Hall varies, according to their situation and desirableness, from \$45 to \$75 per year.

Each room is supplied with a bedstead, mattress, bureau, and table. Stoves and other furniture must be provided by the occupant. Washing is done for seventy-five cents per dozen pieces. It is probable that the price of board will not much exceed three dollars and a half per week at the Club which has been formed among the students. The price in boarding-houses varies from five to eight dollars per week.

# LAW SCHOOL.

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## FACULTY.

CHARLES W. ELIOT, LL.D., *President.*  
 CHRISTOPHER C. LANGDELL, A.M., *Dean, and Dane Professor of Law.*  
 EMORY WASHBURN, LL.D., *Bussey Professor of Law.*  
 JAMES B. THAYER, LL.B., *Royall Professor of Law.*  
 JAMES BARR AMES, A.M., *Assistant Professor of Law.*  
 JOHN HIMES ARNOLD, *Librarian.*

## STUDENTS.

### Resident Bachelors of Laws.

NAME.	RESIDENCE.	ROOM.
Goddard, George Augustus, A.M., LL.B.,	Boston,	H'ke 40.
Lincoln, Albert Lamb, A.B., LL.B.,	Brookline,	S. 21.
Loring, William Caleb, A.B., LL.B.,	Boston,	C. 5.

### Second Year's Students.\*

Ames, Samuel,	Providence, R. I.,	28 Dunster St.
Amory, Francis Inman, A.B.,	Boston,	41 Beacon St., Boston.
Andrew, John Forrester, A.B.,	Boston,	54 Brattle St.
Angell, Elgin Adelbert, A.B.,	Forestville, N.Y.,	Little's Block 18.
Babcock, Lemuel Hollingsworth, A.B.,	Milton,	C. 56.
Barrick, Emery Shepherd, A.B. (Lafayette Coll.),	Flemington, N. J.,	40 Austin St.
Barss, William Lawson,	Wolffville, N. S.,	28 Dunster St.
Canavan, Michael Joseph, A.B.,	Somerville,	T. 27.
Cate, Edward Warren, A.B.,	Newton,	26 Mt. Auburn St.
Chandler, Parker Cleaveland, A.B. (Williams Coll.),	Boston,	78 Mt. Auburn St.

\* By a recent change, this list embraces only such students as have passed the examinations of the first year.

Chapin, Horace Dwight, A.B.,	<i>Brookline,</i>	Fayerweather St.
Clifford, Walter, A.B.,	<i>New Bedford,</i>	48 Brattle St.
Cram, John Sergeant, A.B.,	<i>New York, N.Y.</i>	25 Holyoke St.
Dowse, William Bradford Homer, A.B.,	<i>Sherborn,</i>	G. 48.
Dunn, Frank Kershner, A.B. ( <i>Ken- yon Coll.</i> ),	<i>Mt. Gilead, O.,</i>	62 Trowbridge St.
Edson, Loren Henry,	<i>St. Albans, Vt.,</i>	13 Remington St.
Emerson, George Addison,	<i>Cambridge,</i>	882 Main St.
Fox, Jabez, A.B.,	<i>Cambridge,</i>	4 Mt. Auburn St.
Hale, Edwin Blaisdell, A.B. ( <i>Dart- mouth Coll.</i> ),	<i>Cambridge,</i>	887 Harvard St.
Harris, Joseph Albert,	<i>Moncton, N. B.,</i>	28 Dunster St.
Hutchins, Edward Webster, A.B.,	<i>Boston,</i>	T. 67.
Kidder, Camillus George, A.B.,	<i>Brooklyn, N.Y.,</i>	T. 66.
King, John Lord, A.B.,	<i>Springfield,</i>	28 Dunster St.
Kinney, Jonathan Kendrick,	<i>West Randolph, Vt.,</i>	9 Wadsworth House.
Lathrop, Charles Hervey,	<i>Savannah, Ga.,</i>	18 Hilliard St.
Ledyard, Lewis Cass, A.B.,	<i>Newport, R. I.,</i>	7 Wadsworth House.
McNally, John James,	<i>Charlestown,</i>	S. 8.
Merriam, Edwin Garrald, A.B.,	<i>Lawrence,</i>	C. 35.
Metcalfe, Lyne Shackelford, A.B. ( <i>Washington Univ.</i> ),	<i>St. Louis, Mo.,</i>	H'ke 87.
Miller, Thomas Scott, A.B.,	<i>Jackson, La.,</i>	W. 7.
Newmark, Nathan, A.B. ( <i>Univ. of California</i> ),	<i>San Francisco, Cal.,</i>	12 Story St.
Pattee, William Greenleaf Apple- ton,	<i>Quincy,</i>	D. 84.
Pendleton, Frank Key, A.B.,	<i>Cincinnati, O.,</i>	19 Hilliard St.
Robinson, Frank Woodbury,	<i>Portland, Me.,</i>	62 Trowbridge St.
Roelker, William Greene,	<i>East Greenwich, R.I.,</i>	404 Harvard St.
Sargent, Lucius Manlius, A.B.,	<i>Boston,</i>	19 Hilliard St.
Spalding, Benedict,	<i>Lebanon, Ky.,</i>	H'ke 87.
Stone, Philip Sidney, A.B.,	<i>Cambridge,</i>	2 Phillips Pl.
Sullivan, John Clyde,	<i>Sidney, O.,</i>	41 Holyoke St.
Tucker, William Lawrence, A.M.,	<i>Boston,</i>	8 Holyoke St.
Wald, Gustavus Henry, A.B. ( <i>Yale Coll.</i> ),	<i>Cincinnati, O.,</i>	13 Remington St.
West, Henry Nelson,	<i>New Bedford,</i>	17 Dunster St.
White, Moses Perkins, A.B.,	<i>Vershire, Vt.,</i>	G. 24.
White, William Gardner,	<i>Chicopee,</i>	98 Austin St.
Williams, Oscar Waldo,	<i>Carthage, Ill.,</i>	58 Mt. Auburn St.
Young, James Holden, A.B.,	<i>Cambridge,</i>	T. 64.

## First Year's Students.

Alfred, Frank Edward,	<i>Fairfax, Vt.,</i>	14 Dunster St.
Allen, Horace Gwynne,	<i>Boston Highlands,</i>	Boston Highlands.
Almy, Charles, A.B.,	<i>New Bedford,</i>	10 Oxford St.
Alspaugh, Jacob Stoker,	<i>Wapakoneta, O.,</i>	17 Dunster St.
Atwood, Warren Havilah,	<i>Athol,</i>	4 Mt. Auburn St.
Austin, Henry,	<i>Boston,</i>	866 Main St.
Banks, Joseph Fremont,	<i>Waltham,</i>	Waltham.
Barrett, Harry Hudson, A.B.,	<i>Malden,</i>	H'y 23.
Beale, Truxtun, C.E. ( <i>Penn. Acad.</i> ),	<i>Washington, D.C.,</i>	S. 10.
Bendelari, Giorgio Anacleto Cor- rado, A.B.,	<i>Greenwich, Conn.,</i>	D. 10.
Bettens, Edward Detraz, A.B.,	<i>Cincinnati, O.,</i>	H. 21.
Blair, Woodbury, A.B.,	<i>Washington, D.C.,</i>	10 Holyoke St.
Bowditch, Frederick Channing,	<i>Brookline,</i>	48 Brattle St.
Brennan, John Francis,	<i>Providence, R. I.,</i>	41 Holyoke St.
Briggs, William Harrison,	<i>East Douglas,</i>	30 Wendell St.
Browne, Alexander Porter, A.B.,	<i>Boston,</i>	H'ke 11.
Brune, Frederick William, A.B. ( <i>St. John's Coll., Annapolis</i> ),	<i>Baltimore, Md.,</i>	Boston.
Buckland, Horace Stephen,	<i>Fremont, O.,</i>	25 Holyoke St.
Bullock, Rufus Augustus, A.B.,	<i>Worcester,</i>	T. 27.
Burnham, William Appleton, A.B.,	<i>Boston, 21 Commonwealth Av.,</i>	Boston.
Carpenter, Benjamin Woodruff,	<i>Leonardsville, Pa.,</i>	56 Mt. Auburn St.
Carson, John Bernard,	<i>San Francisco, Cal.,</i>	30 Mt. Auburn St.
Carty, Patrick Joseph,	<i>Providence, R. I.,</i>	Somerville.
Clarke, Samuel Belcher, A.B.,	<i>Chicopee Falls,</i>	S. 15.
Coale, George Oliver George, A.B.,	<i>Boston,</i>	M. 57.
Cormac, Thomas Emanuel Kav- anagh,	<i>Providence, R. I.,</i>	28 Dunster St.
Daland, Tucker, A.B.,	<i>Boston,</i>	Boston.
Dana, Richard Henry, A.B.,	<i>Boston,</i>	5 Phillips Place.
Deming, Horace Edward, A.B.,	<i>Cambridge,</i>	T. 29.
Elliot, William Henry, A.B.,	<i>Keene, N. H.,</i>	Boston.
Elwood, Frank Worcester, A.B.,	<i>Boston,</i>	22 Marlboro' St., Boston.
Field, Marcus Harvey, A.B. ( <i>Emory Coll.</i> ),	<i>Kansas City, Mo.,</i>	63 Ellery St.
Frank, George Washington,	<i>San Francisco, Cal.,</i>	25 Holyoke St.
Fulton, George William,	<i>Fulton, Texas,</i>	48 Holyoke St.
Gallison, Henry Hammond, M.D.,	<i>Boston,</i>	15 Eaton St., Boston.
Goehring, John Meek,	<i>Pittsburgh, Pa.,</i>	10 Mellen St.
Grant, George Frederick,	<i>West Meriden, Conn.,</i>	58 Mt. Auburn St.

Grinnell, Charles Edward, A.M.,	Cambridge,	378 Harvard St.
Harding, Herbert Lee, A.B.,	Boston,	C. 17.
Harper, Charles Spang, A.B. ( <i>Western Univ. of Pa.</i> ),	Pittsburgh, Pa.,	378 Harvard St.
Harris, Darius Miller,	Cambridge,	45 Hastings St.
Herron, John Brown, A.B. ( <i>Yale Coll.</i> ),	Pittsburgh, Pa.,	10 Mellen St.
Hill, Edward Bruce, A.B.,	Worcester,	M. 45.
Hinckley, Samuel Parker, A.B.,	Boston,	54 Brattle St.
Ivy, Jesse, A.B.,	Gainesville, Ala.,	W. 7.
Kloman, Charles Howard, C.E. ( <i>Penn. Milit. Acad.</i> ),	Pittsburgh, Pa.,	14 Appian Way.
Lilienthal, Jesse Warren, LL.B. ( <i>Cincinnati Coll.</i> ),	New York, N.Y.,	14 Dunster St.
Locke, Aubin Gale,	New York, N.Y.,	14 Pleasant St.
McGinness, George Washington,	East Cambridge,	239 Cambridge St.
Mackintosh, William Davis, A.B.,	Boston,	22 Avon St.
McMillan, William Gordon, A.B.,	New York, N.Y.,	H'y 4.
Maxwell, David Beatty,	Pittsburgh, Pa.,	62 Trowbridge St.
Mead, Clarence Freeman,	Cambridge,	224 North Av.
Mead, Warren Hartwell,	West Acton,	C. 69.
Merwin, Henry Childs, A.B.,	Boston,	G. 14.
Meyer, Henry, A.B. ( <i>Yale Coll.</i> ),	Pittsburgh, Pa.,	10 Mellen St.
Mooney, George Thomas,	St. Albans, Vt.,	14 Dunster St.
Murphy, John,	Cambridge,	11 Remington St.
Palmer, Charles Arthur,	St. John, N. B.,	28 Dunster St.
Patton, John Sidney, A.B.,	Morgantown, N.C.,	M. 40.
Perry, Charles Maurice,	Portland, Me.,	W. 50.
Perry, Chester Mead,	Rockland,	M. 13.
Pierce, Hiram Marcellus,	St. Albans, Vt.,	4 Wright St.
Reed, James Russell, A.B.,	Lexington,	1 Wadsworth House.
Ricketson, Elisha Thornton,	Boston,	29 Marcella St., Boston.
Rives, Arthur Landon, A.B.,	Boston,	Boston.
Roberts, Edwards,	Boston,	M. 11.
Roberts, Frank Schuyler,	New York, N.Y.,	G. 18.
Robertson, William Roan,	Carlinville, Ill.,	47 River St.
Sewall, Theodore Lovett, A.B.,	St. Paul, Minn.,	C. 67.
Sheffield, George,	Bellevue, O.,	840 Broadway.
Shepley, Francis Baxter, A.B.,	Fitchburg,	C. 63.
Simmons, John Franklin, A.B.,	Hanover,	S. 7.
Sinclair, Archibald John,	Halifax, N. S.,	727 Cambridge St.
Sprigg, James,	Quincy, Ill.,	18 Wendell St.
Stevens, Charles Frank,	Worcester,	68 Mt. Auburn St.



Stow, George Lewis, A.B. ( <i>Univ. of Vt.</i> ), Burlington, Vt.,	D. 6.
Thomas, William, A.B., Boston,	4 Holyoke St.
Tilden, William Denman, B.S. ( <i>Racine Coll.</i> ),	Chicago, Ill., 22 Mt. Auburn St.
Tupper, Charles Hibbert,	Halifax, N. S., 727 Cambridge St.
Turtle, Owen Ignatius,	Cheshire, 28 Wendell St.
Upham, George Baxter, B.S. ( <i>Cornell Univ.</i> ),	Claremont, N. H., 83 Holyoke St.
Van Nest, George Willett, A.B.,	New York, N. Y., 10 Oxford St.
Walbach, George Gorham, A.B.,	Boston, G. 1.
Warren, Thomas Barnes, A.B.,	Springfield, 98 Austin St.
Washburn, Alfred Foster, A.B.,	Cambridge, 28 Quincy St.
Whitney, Charles Leavitt Beals, PH.D.,	Cambridge, 717 Cambridge St.
Wilson, William Power,	Boston, 14 Plympton St.
Wolff, James Harris,	Charlestown, Charlestown.
Wyman, John Palmer, A.B.,	Arlington, Arlington.

### COURSE OF INSTRUCTION.

The design of this School is to afford such a training in the fundamental principles of English and American Law as will constitute the best preparation for the practice of the profession in any place where that system of law prevails. With this view, the prescribed course of study, which is designed to occupy the student two full years, will comprise the following subjects:—

#### FIRST YEAR.

1. *Real Property* . . . . . PROF. WASHBURN.
2. *Contracts* . . . . . ASST. PROF. AMES.
3. *Torts* . . . . . ASST. PROF. AMES.
4. *Criminal Law and Criminal Procedure* . . . PROF. WASHBURN.
5. *Civil Procedure at Common Law* . . . . ASST. PROF. AMES.

#### SECOND YEAR.

1. *Real Property* . . . . . PROF. WASHBURN.
2. *Civil Procedure at Common Law* . . . . PROF. LANGDELL.
3. *Evidence* . . . . . PROF. THAYER.
4. *Jurisdiction and Procedure in Equity* . . . PROF. LANGDELL.

The entire course will be taught every year, so that students entering the School at the beginning of any year can begin the course and complete it in two years.

The methods of instruction will be by recitations; by lectures and expositions; by moot courts; and by cases in pleading.

During the academic year 1874-75, instruction will be given in the following subjects in addition to those of the prescribed course :—

1. *Implied Contracts* . . . . . PROF. LANGDELL.
2. *Trusts* . . . . . PROF. THAYER.
3. *Bills of Exchange and Promissory Notes* . . . ASST. PROF. AMES.

### ADMISSION, EXAMINATIONS, AND DEGREES.

No examination, and no particular course of previous study, is required for admission, except in case of candidates for a degree who apply for admission to advanced standing; but the student, if not a graduate of a college, must produce testimonials of good moral character. He must also file a bond with the College Steward in the sum of \$200, signed by two bondsmen, one of whom must be a citizen of Massachusetts, for the payment of dues to the University; or, instead of filing a bond, he may pay his tuition-fee for the year in advance, and deposit \$50 with the Steward upon his entrance, and at the beginning of each subsequent academic year, to be retained until the end of the academic year, and then to be accounted for. No officer or student of the University will be accepted as bondsman. Law students who live in College rooms or board at Memorial Hall must file the same bond as undergraduates (\$600), or pay rent for the year in advance, and deposit \$200 with the Steward as security for the payment of their board. All persons living in College rooms are subject to the regulations of the Parietal Committee, in the same manner as undergraduates.

Admission to advanced standing will be allowed only upon an examination, which will be held at the beginning of the academic year, and will require of the candidates a thorough knowledge of the following books :—

Washburn on Real Property (Book I., Chapters 1 to 5 inclusive, and Chapters 10 to 16 inclusive; Book II., Chapter 2, §§ 2 to 5 inclusive; Book III., Chapters 4 and 5); Langdell's Select Cases on Contracts, Vol. I.; Ames's Select Cases on Torts, Parts I. and II.; \* Blackstone's Commentaries, Book IV.; Greenleaf on Evidence, Part V.; Stephen on Pleading, including Chapter I. The examination is by printed questions, which the candidates answer in writing in the presence of the examiner.

The examination for admission to advanced standing for the year 1875-76 will be held at Dane Hall, on Thursday and Friday, September 30 and October 1, beginning at 9 A.M. on Thursday. No applicant will be examined at any other time.

Students who are not candidates for a degree may enter the School at any stage of their professional studies, and at any time in the year; and

\* To be obtained at the University Bookstore, Cambridge, Mass.

may avail themselves of the advantages of the School in whatever manner and to whatever extent they see fit.

The degree of Bachelor of Laws will be conferred upon students who, having been in the School during the whole course of two years, shall have passed satisfactory examinations at the end of each year in the prescribed studies of that year; and also upon those who, having been admitted one year in advance, shall have been in the School one year, and have passed a satisfactory examination in the prescribed studies of the second year at the end of the year; provided that no degree will be conferred until the candidate shall have attained the age of twenty-one years.

All students who, while members of the School, shall pass a satisfactory examination in course, in one or more subjects, will be entitled to a certificate, stating the length of time they have been members of the School, and specifying the subjects in which they have passed such examination.

The degree of Master of Arts will be conferred upon persons who, being both Bachelors of Arts and Bachelors of Laws, shall pursue at the University, for at least one year, an approved course of study in Law, and shall pass an examination upon that course. The degree of Bachelor of Laws must have been given by this University; that of Bachelor of Arts, by this University, or by an institution having an equivalent course of study for the degree of Bachelor of Arts.

Applications for this degree should be addressed to Professor J. M. Peirce, *Secretary of the Academic Council*. For further information, see pages 135-38.

### FEES AND EXPENSES.

The fee for the first year that a student is a member of the School is \$150; for the second year, \$100; and for any subsequent year, \$50. For a half, or any less fraction of a year, half of a year's fee is charged; for more than half a year, the fee for the whole year is charged. The fee for the examination for the degree of Master of Arts is \$30.

There are no *extra* charges in the School.

The other expenses of a student for an academic year may be estimated as follows:—

Rent and care of a furnished room . . .	\$75 to \$150
Board for thirty-eight weeks . . . . .	152 to 304
Fuel and Lights . . . . .	20 to 25
Text Books . . . . .	20 to 25
	<hr/>
	\$267 to \$504

Students who are willing to go a mile from the Law School can get cheaper rooms. Board at cost can be obtained by members of the Law School at Memorial Hall. It is expected that the cost per week will not much, if any, exceed four dollars. Applications for seats should be made at the Hall, to J. P. Farmer, Jr., Steward, from whom full information can be obtained.

Law School bills are payable on April 5 for two-thirds of the year, and before October 10 for the remainder; but when a student permanently severs his connection with the School his whole bill becomes payable at once.

If a student intends not to remain in the School during the second half of the year, he must give notice in writing to the Dean of such intention, or pay his bill to the Steward, on or before February 15; otherwise, he will be charged for the whole year.

#### LIBRARY, READING-ROOM, LAW-CLUBS.

The Law Library is one of the most complete and extensive in America; and among libraries belonging to law schools it has no rival. In the department of Civil and Foreign Law it is believed to stand at the head of all libraries in America. Within the last four years it has received very extensive and important additions, more than three thousand volumes having been added, and nearly seventeen thousand dollars having been expended in the purchase of books and in binding since September 1, 1870. The students also have the full and free use of the College Library, containing one hundred and forty-eight thousand volumes.

The Law Library is kept in Dane Hall, and is open day and evening for the use of students during the entire academic year. In the same building (which is devoted exclusively to the use of the School) all the exercises of the School are conducted. In a room adjoining the library is a Reading-Room, devoted to newspapers and periodicals, and under the control of the students. Nearly every member of the School belongs to one or more Law Clubs. These clubs, numbering about twelve in all, generally consist of about ten or twelve members each, and meet once a week for the argument and decision of moot cases. The cases are invariably pleaded by the counsel in the first instance, and the questions argued and decided are such as are raised by the pleadings. The students are resident in Cambridge, and the work of the School constitutes their chief occupation and interest. Questions relating to their common pursuit are constantly the subject of conversation and discussion among the members of the School, and the stimulating and invigorating effect of this constant social intercourse among a large body of educated and highly trained young men cannot be overestimated.

## SCHOLARSHIPS.

Four Bussey Scholarships and four University Scholarships, of the annual value of one hundred dollars each, have been established in the Law School. They are assigned at the beginning of each academic year to meritorious students standing in need of such assistance, who have been in the School the whole of the preceding year, and propose to remain in it the whole of the ensuing year. The award is made by the Corporation on the recommendation of the Faculty. One-third of the annual value of the Scholarships is paid at the time of the award, and the remaining two-thirds on the 1st of April following. Applications for these Scholarships must be made in writing to the Dean by the first of June.

INSTRUCTION IN OTHER DEPARTMENTS OF THE  
UNIVERSITY.

The instruction given in the other departments of the University, with the exception of exercises carried on in the special laboratories, is also open, without additional charge, to students of the Law School. Among the numerous courses of instruction in Harvard College (more than one hundred in all), those upon Roman Law, Political Economy, and History, are particularly suitable for Law students. Those who wish to avail themselves of these privileges must procure from the Dean a certificate of membership in the School.

# LAWRENCE SCIENTIFIC SCHOOL.



## FACULTY.

CHARLES W. ELIOT, LL.D., *President.*  
 HENRY L. EUSTIS, A.M., *Dean, and Professor of Engineering.*  
 BENJAMIN PEIRCE, LL.D., *Professor of Mathematics.*  
 ASA GRAY, LL.D., *Professor of Natural History.*  
 WOLCOTT GIBBS, M.D., *Professor of Physics.*  
 JOSEPH WINLOCK, A.M., *Professor of Astronomy.*  
 JOSIAH P. COOKE, A.M., *Professor of Chemistry.*  
 JOHN McCRADY, A.B., *Professor of Zoology.*  
 ADRIEN JACQUINOT, A.B., *Tutor in French.*  
 JAMES M. PEIRCE, A.M., *Professor of Mathematics.*  
 ———, *Professor of Topographical Engineering.*  
 GEORGE L. GOODALE, M.D., *Assistant Professor of Vegetable Physi-  
 ology and Instructor in Botany.*  
 WILLIAM H. PETTEE, A.M., *Assistant Professor of Mining.*  
 NATHANIEL S. SHALER, S.B., *Professor of Palæontology.*  
 JOHN TROWBRIDGE, S.D., *Assistant Professor of Physics.*  
 CHARLES L. JACKSON, A.M., *Assistant Professor of Chemistry.*  
 HENRY B. HILL, A.M., *Assistant Professor of Chemistry.*  
 M. E. WADSWORTH, A.M., *Instructor in Mathematics.*  
 CHARLES H. MOORE, *Instructor in Free-hand Drawing.*  
 GEORGE A. BARTLETT, *Tutor in German.*

ALFRED W. FIELD, A.B., }  
 FRANK A. GOOCH, A.B., } *Assistants in Chemistry.*  
 GEORGE O. G. COALE, A.B., *Assistant in Physics.*  
 WALTER FAXON, A.B., S.B., *Assistant in Zoology.*  
 W. P. WILSON, *Assistant in Botany.*  
 FRANCIS W. DEAN, *Instructor in Surveying and Drawing.*

## STUDENTS.

NAME.	RESIDENCE.	ROOM.
Bell, William Hayward,	Cambridge,	16 Craigie St.
Briggs, George Russell, A.B.,	Cambridge,	61 Kirkland St.
Burgwyn, Collinson Pierrepont Edwards, A.B.,	Richmond, Va.,	T. 58.

Burridge, Francis Ogden,	<i>Brookline,</i>	H'ke 12.
Davis, Charles Henry,	<i>West Somerville,</i>	4 Holyoke St.
Dennett, Lora Daniel,	<i>Buxton, Me.,</i>	C. 33.
Denton, Huntington,	<i>Cambridge,</i>	14 Craigie St.
Hill, George Anthony, A.M.,	<i>Cambridge,</i>	H'y 20.
Hinckley, Howard,	<i>Philadelphia,</i>	D. 42.
Hodgkins, William Candler,	<i>Cambridge,</i>	12 Remington St.
Hopkins, Frank Tucker,	<i>Bridgewater,</i>	10 Appian Way.
Irving, George Washington,	<i>Taunton,</i>	D. 4.
James, Montgomery,	<i>Cambridge,</i>	94 Brattle St.
Jennings, James Hennen,	<i>Hawesville, Ky.,</i>	C. 54.
Lambert, William Thomas,	<i>Charlestown,</i>	Dolton's Block 1.
Lee, Richard Henry, S.B.,	<i>Pottsville, Penn.,</i>	8 Holyoke St.
Lowell, James Duane,	<i>Schenectady, N. Y.,</i>	D. 25.
Marston, William Staples, A.B.,	<i>Cambridge,</i>	M. 48.
Maruoka, Takero,	<i>Yedo, Japan,</i>	68 Mt. Auburn St.
Nichols, Austin Porter,	<i>Haverhill,</i>	M. 59.
Otis, Walter Joseph,	<i>Chicago,</i>	H'ke 24.
Perkins, Seth,	<i>Cambridge,</i>	C. 33.
Rose, Hiram Holbrook,	<i>La Porte, Ind.,</i>	17 Dunster St.
Sands, Frederic Porter,	<i>Newport, R. I.,</i>	17 Kirkland St.
Smith, Willie French,	<i>Somerville,</i>	15 School Court.
Tebbets, George Edward,	<i>Swampscott,</i>	Swampscott.
Thayer, Edward Davis,	<i>Worcester,</i>	T. 24.
Tilden, William,	<i>New York, N. Y.,</i>	2 Garden St.
Yznaga, Antonio Modesto, S.B.,	<i>New York, N. Y.,</i>	17 Dunster St.

This School offers the following complete courses of study in the various departments of Science: First, the courses designed to meet the needs of the graduates of High Schools and Academies who desire a practical education in Civil and Topographical Engineering, in Mining Engineering, in Chemistry, in Natural History, or in Mathematics, Physics, and Astronomy. Graduates of Colleges should be able to enter these courses one or two years in advance. Secondly, the teachers' courses, intended especially for those who have been or who are preparing to be teachers, and designed to qualify such persons in the modern methods of teaching science by observation and experiment. Thirdly, the higher instruction in science, designed for candidates for the degree of Doctor of Philosophy, or Doctor of Science, and other advanced students.

## COURSES PREPARATORY TO THE DEGREES OF CIVIL ENGINEER AND BACHELOR OF SCIENCE.

### ENGINEERING.

1. A four years' course of study in CIVIL AND TOPOGRAPHICAL ENGINEERING, as follows: *First Year.* — Spherical Trigonometry; Analytic Geometry; Descriptive Geometry; Chemistry; Surveying and Plotting; Free-hand and Water-color Drawing; Mechanical Drawing; French. *Second Year.* — Differential and Integral Calculus; Mechanics; Physics; Physical Geography and Elementary Geology; Mechanical Drawing; French; German. *Third Year.* — Applied Mechanics; Practical Astronomy and Geodesy; Hypsometry; Topographical Surveying and Drawing; Mineralogy, including the use of the Blowpipe and Crystallography; Geology; German. *Fourth Year.* — Building materials and their applications in railroads, canals, bridges, &c.; Applications of Descriptive Geometry to masonry and stone-cutting; Hydraulics; Heat and its applications; Discussions of existing structures and working out of projects.

Students who complete this course and pass the required examinations receive the degree of Civil Engineer, and are prepared to enter on the practice of their profession. Those preparing to become mining engineers substitute for the studies of the fourth year the special mining course stated below (p. 101).

### CHEMISTRY.

2. A three years' course in PRACTICAL AND THEORETICAL CHEMISTRY, as follows: *First Year.* — Chemical Manipulation; Descriptive Chemistry; Qualitative Analysis; Free-hand and Water-color Drawing; Physics; Physical Geography and Elementary Geology; French. *Second Year.* — Descriptive Chemistry (continued); Quantitative Analysis; Experimental Physics; Mineralogy, including the use of the Blowpipe and Crystallography; Chemical Technology; German. *Third Year.* — Organic Chemistry; Preparation of Chemical Products; Chemical Physics, including Determination of Specific Gravity of Vapors and Gas Analysis; Photography; German.

This course is intended for students preparing to become practical chemists or teachers of the science, and may be varied to meet special wants.

Students who complete this course and pass the required examinations receive the degree of Bachelor of Science.



## NATURAL HISTORY.

8. A three years' course in NATURAL HISTORY, as follows: *First Year.* — Chemical Manipulations; Descriptive Chemistry; Qualitative Analysis; Physical Geography and Elementary Geology; Microscopy; Botany; French; Free-hand and Water-color Drawing. *Second Year.* — Experimental Physics; Mineralogy, with use of the Blowpipe and Crystallography; Botany; Comparative Anatomy (vertebrates); Zoölogy; Physiology; German; Drawing. *Third Year.* — Zoölogy; Botany; Palæontology; Geology; German.

Students who complete this course and pass the required examinations receive the degree of Bachelor of Science.

## MATHEMATICS, PHYSICS, AND ASTRONOMY.

4. A three years' course in MATHEMATICS, PHYSICS, and ASTRONOMY, as follows: *First Year.* — Spherical Trigonometry; Analytic Geometry; Elements of the Differential and Integral Calculus; Practical Applications of Trigonometry; Practical Astronomy and Geodesy; Physical Geography and Elementary Geology; French. *Second Year.* — Differential and Integral Calculus, second course; Mechanics; Theory of Equations; Interpolation, Method of Least Squares, and Practical Computation; Heat, with its Applications; Experimental Physics; German. *Third Year.* — German; the other studies elective, and such that a student may pursue a special course in either Physics, Astronomy, or Pure Mathematics.

Students who complete this course and pass the required examinations receive the degree of Bachelor of Science.

## THE TEACHERS' COURSES.

1. A one year's course of study in the elements of NATURAL HISTORY, CHEMISTRY, and PHYSICS, as follows: Physical Geography and Elementary Geology; General Chemistry and Qualitative Analysis; Mineralogy; Physics; Botany; Zoölogy.

This course is flexible and comprehensive: the instruction is mainly given in the laboratories and museums of the University, and it is of the most practical character, every student being taught to make experiments and study specimens himself.

Botanical instruction is given at the botanical laboratory. Dissecting microscopes are provided for students, and the garden and green-houses afford ample material for the practical study of the science. All work is under the direct supervision of Assistant Professors Goodale and Farlow.

Similar facilities are afforded for the study of Zoölogy, Geology, and Palæontology at the laboratories of the Museum of Comparative Zoölogy, and of Mineralogy at the Mineral Cabinet. The instruction in Experimental Chemistry and Physics is given in the laboratories, and the students are shown the best methods of illustrating experimentally the principles of these sciences.

2. Special instruction in Chemistry and in Botany is given during the vacation to teachers who are unable to attend during term time (see page 147).

### INSTRUCTION FOR CANDIDATES FOR THE DOCTORS' DEGREE, AND OTHER ADVANCED STUDENTS.

Instruction for advanced students can be obtained in any of the following subjects: PHYSICS, CHEMISTRY, ZOÖLOGY, BOTANY, and MATHEMATICS.

Professor Gibbs receives special students in Heat and a part of the subject of Light at the Rumford Laboratory: Assistant Professor Trowbridge receives special students in Physics at the Laboratory in Harvard Hall; Professor Cooke receives special students in Chemistry at the laboratories in Boylston Hall; Professors Hagen, McCrady, and Shaler, and Messrs. Pourtales, Hamlin, and Allen, receive special students in Zoölogy at the Museum of Comparative Zoölogy. Assistant Professor Goodale receives special students in Botany at the Botanic Garden and Herbarium. Professors Benjamin Peirce and James M. Peirce receive special students in Mathematics.

The opportunities for advanced students in all branches of Natural History, and in Physics, Chemistry, Astronomy, and Mathematics, are very great. The Museum of Comparative Zoölogy contains a Zoölogical and a Geological and Palæontological Laboratory, in addition to the work-rooms (six in number) of the different departments, to which the most advanced students are admitted in charge of the assistants. The Library at the Museum contains about 12,000 volumes. The Botanical department has a thoroughly furnished laboratory, garden, and greenhouse, and its library and herbarium are the largest in America. The Chemical department has two laboratories, one accommodating one hundred students, and devoted to experimental chemistry and qualitative analysis, the other expressly fitted up for quantitative analysis, and reserved for advanced students. The Physical department has two laboratories, one under the charge of the Rumford Professor, Dr. Gibbs, for investigations in Heat and Light, the other in charge of Assistant Professor Trowbridge, provided with the most recent apparatus for electrical measurements and other instruments of precision, affording ample means for investigating physical phenomena in general.

## ADMISSION.

Candidates for admission to any one of the regular courses in Engineering, Chemistry, Natural History, or Mathematics, Physics, and Astronomy, will be examined in the following subjects:—

Modern Geography.

The elements of Physical Geography.

English Composition. Each candidate will be required to write a short English composition upon some subject to be given out at the examination.

**LATIN.**—Four books of Caesar's Commentaries, and four books of the Aeneid of Virgil, or their equivalents; Latin Grammar.

**FRENCH OR GERMAN.**—The translation at sight of easy prose.

**MATHEMATICS.**—Arithmetic, including the metric system of weights and measures; the elements of Algebra through quadratic equations; Elementary Plane Geometry; the use of Logarithms.

*For the Course in Engineering.*—In addition to the above requisitions, candidates who propose to take the course in Engineering will be examined in Algebra, as much as is contained in the advanced text-books; Solid Geometry; Plane and Analytic Trigonometry, as much as is contained in Bradbury's Trigonometry, or the large print of the first eight chapters of Chauvenet's Trigonometry.

*For the Course in Chemistry.*—Besides the general requisitions, candidates who propose to take the course in Chemistry will be examined in Elementary Descriptive Chemistry, as much as is contained in Nichols's abridgment of Eliot and Storer's Manual; Elementary Physics, as much as is contained in Rolfe and Gillett's Manual.

*For the Course in Mathematics, Physics, and Astronomy.*—In addition to the requisitions of the Engineering Course, candidates will be examined in the Elements of Analytic Geometry; Elementary Physics.

Every candidate for admission to advanced standing will be further examined in all the studies already pursued by the class for which he offers himself.

Graduates of Harvard College who have sustained a satisfactory examination while in College on the subjects of the first and second years of the Engineering Course, except Drawing and Surveying, will be admitted to the third year of that course. Undergraduates who intend to study Engineering are recommended, by the Scientific Faculty, to take, as extras, the courses of Drawing and Surveying in the Scientific School; but these subjects may be made up in the third and fourth years.

The degree in Chemistry, or in Natural History, or in Mathematics, Physics, and Astronomy, may be taken in one year by graduates of the College who have finished satisfactorily the courses in College recom-

mended to those intending to take one of these degrees. The successful study of any subject in College will be taken as an equivalent for the same subject in the Scientific School.

Examinations for admission will be held on Thursday and Friday, July 1 and 2, and Thursday and Friday, September 30 and October 1, 1875, at Lawrence Hall, beginning at 8 A.M. Students offering themselves at the first examination, and finding themselves deficient in a portion of the mathematics, can get systematic instruction in these subjects at Cambridge during the long summer vacation. There is no examination for admission to the Teachers' Courses.

Students of regular standing in the Scientific School may attend the exercises in any other department of the University free, excepting the exercises in the special laboratories.

### DEGREES.

The degree of **CIVIL ENGINEER** will be conferred upon students who have completed the course of study in civil and topographical engineering, and sustained the necessary examinations.

The degree of **BACHELOR OF SCIENCE** may be conferred upon any student who, having attended the School for at least one year, and completed the prescribed course of studies in one or more departments, shall have passed a satisfactory public examination. The department or departments in which the student has been examined, and his grade of merit, will be specified in the Diploma. The three grades of the degree are *cum laude*, *magna cum laude*, *summa cum laude*.

For the conditions on which the degree of **DOCTOR OF SCIENCE** is conferred, see pages 135-138.

### SCHOLARSHIPS.

Four University Scholarships, of the annual value of \$150 each, have been established in the Scientific School. They are assigned at the beginning of each academic year to meritorious students standing in need of such assistance, who have been in the School the whole of the preceding year, and propose to remain in it the whole of the ensuing year. The award is made by the Corporation on the recommendation of the Faculty. One-third of the annual value of the Scholarships is paid at the time of the award, and the remaining two-thirds on the 1st of April following. Applications for these Scholarships must be addressed in writing to the Dean by the 1st of June.

### FEEES AND EXPENSES.

The tuition fee for the academic year in any of the above departments, or courses, is \$150; for half, or any smaller fraction of a year, \$75; for

any fraction of a year greater than one-half, the fee for the whole year is charged.

The other necessary expenses of a student for an academic year may be estimated as follows :—

Room . . . . .	from \$30 to \$100
Board for thirty-eight weeks . . . . .	„ 152 „ 304
Books . . . . .	„ 20 „ 25
Fuel and Lights . . . . .	„ 15 „ 35
	<hr/>
	\$217 „ \$464

Students in the Scientific and Mining Schools may obtain rooms in the College buildings by applying to the College Steward, either by mail or in person (see page 76). They may also join the Dining-Hall Association, and board at cost at Memorial Hall.

Students in Chemistry are supplied with all needed apparatus, but are required to restore it in as good condition as when received. They are charged for all damage or breakage, and also from \$10 to \$30 per annum for chemicals and use of apparatus.

Students in Engineering will provide their drawing materials.

The Gymnasium is open to all members of the University, without extra charge.

All students admitted to the Lawrence Scientific School, or the Mining School, must furnish satisfactory evidence of good moral character, give bonds in the sum of \$200, signed by two bondsmen, one of whom must be a citizen of Massachusetts, for the payment of all dues to the University, and register their names with the Dean of the Faculty of the School to which they are admitted. Instead of filing a bond, a student may deposit with the College Steward such a sum of money as may be deemed sufficient to secure the payment of all dues to the University.

Students engaging College rooms, or boarding at Memorial Hall, will be required to file the same bond as undergraduates (\$600), or to pay rent for the year in advance, and deposit the sum of \$200, as security for the payment of their board; and they hold the rooms subject to the regulations of the Parietal Committee, in the same manner as if they were undergraduates.

No officer or student of the University will be accepted as bondsman.

## SCHOOL OF MINING AND PRACTICAL GEOLOGY.

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### FACULTY.

CHARLES W. ELIOT, LL.D., *President.*

JOSIAH D. WHITNEY, LL.D., *Dean, and Professor of Geology.*

ASA GRAY, LL.D., *Professor of Natural History.*

HENRY L. EUSTIS, A.M., *Professor of Engineering.*

WOLCOTT GIBBS, M.D., *Professor of Physics.*

JOSEPH WINLOCK, A.M., *Professor of Astronomy.*

JOSIAH P. COOKE, A.M., *Professor of Chemistry.*

———, *Professor of Topographical Engineering.*

RAPHAEL PUMPELLE, *Professor of Mining.*

WILLIAM H. PETTEE, A.M., *Assistant Professor of Mining.*

NATHANIEL S. SHALER, S.B., *Professor of Palæontology.*

This School has for its object the instruction of students in Practical Geology, the Art of Mining, and kindred branches. The full course occupies four years, and on those who pass through it and sustain the necessary examinations, the degree of *Mining Engineer* will be conferred.

### COURSE OF STUDY.

The full course prescribed for candidates for the degree of Mining Engineer occupies four years, the first three of which are identical, as regards the subjects of instruction and the order thereof, with the first three years of the Engineering Course in the Lawrence Scientific School. The subjects of instruction during the fourth year of the course are as follows: Economical Geology and the Phenomena of Veins; Mining Machinery and the Exploitation of Mines; General and Practical Metallurgy; Assaying; Working up, Plotting, and Writing out notes of summer excursions.

From time to time opportunities will be offered to the students, by excursions with the Professors, of becoming practically acquainted with astronomical and geodetic work, as also with the method of making geological surveys, and with mining and metallurgical operations.

### ADMISSION. FEES AND EXPENSES.

See under Lawrence Scientific School.

# ASTRONOMICAL OBSERVATORY.

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## FACULTY.

CHARLES W. ELIOT, LL.D., *President.*

JOSEPH WINLOCK, A.M., *Director of the Observatory.*

## ASSISTANTS.

ARTHUR SEARLE, A.M.

WILLIAM A. ROGERS, A.M.

## OBJECTS AND COURSE OF INSTRUCTION.

THE objects of the Observatory are to furnish accurate and systematic observations of the heavenly bodies for the advancement of Astronomical Science, to co-operate in Geodetical and Nautical Surveys, to contribute to the improvement of Tables useful in Navigation, and, in general, to promote the progress of knowledge in Astronomy and the kindred sciences. To aid in effecting these objects, provision is made for publishing the Observations and the Director's Reports, and for increasing the Library.

*Practical Astronomy and the Use of Astronomical Instruments*, including the Spectroscope, will be taught by the Director of the Observatory, and by his Assistants.

### *Text-Books and Works for Reference and Reading.*

Herschel's Outlines of Astronomy.

Grant's History of Physical Astronomy.

Gauss's *Theoria Motus Corporum Coelestium*.

Gauss's *Theoria Combinationis Observationum Erroribus Minimis Obnoxiae*.

Chauvenet's Manual of Spherical and Practical Astronomy.

Olbers's *Methode, die Bahn eines Cometen zu berechnen*. Edited by Encke.

Watson's Theoretical Astronomy.

The fees for instruction may be agreed upon with the Director.

# MEDICAL SCHOOL.

BOSTON.

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THE plan of study in this school was radically changed in 1871. Instruction is given by lectures, recitations, clinical teaching, and practical exercises uniformly distributed throughout the academic year. The year begins on the Thursday following the last Wednesday in September, and ends on the last Wednesday in June. It is divided into two equal terms, with a recess of one week between them. There is also a recess of one week at Christmas. The second term begins Monday, February 15th, 1875. Either of these two terms is more than equivalent to the former "Winter Session," as regards the amount and character of the instruction.

The course of instruction has been greatly enlarged, so as to extend over three years, and has been so arranged as to carry the student progressively and systematically from one subject to another in a just and natural order.

In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory work is substituted for, or added to, the usual didactic lectures, and is as much required of every student as attendance at lectures and recitations.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three years' period of study, a series of written examinations on all the main subjects of medical instruction has been distributed for regular students through the whole three years. Every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction at some time during his period of study.

Members of any one department of Harvard University have a right to attend lectures and recitations in any other department without paying additional fees. (Compare page 138.) Students in the Medical School, who wish to avail themselves of this opportunity of pursuing scientific or other studies, may do so without loss of time counted as medical study, to such extent and in such manner as the Medical Faculty shall in each case prescribe. Undergraduates intending to study medicine are advised to pay special attention to the study of Natural History, Chemistry, Physics, and the French and German languages, while in College.



## FACULTY.

- CHARLES W. ELIOT, LL.D., *President.*  
CALVIN ELLIS, M.D., *Dean, and Jackson Professor of Clinical Medicine.*  
JOHN B. S. JACKSON, M.D., *Shattuck Professor of Morbid Anatomy,  
and Curator of the Anatomical Museum.*  
OLIVER W. HOLMES, M.D., *Parkman Professor of Anatomy.*  
HENRY J. BIGELOW, M.D., *Professor of Surgery.*  
JOHN E. TYLER, M.D., *Professor of Mental Diseases.*  
CHARLES E. BUCKINGHAM, M.D., *Professor of Obstetrics and  
Medical Jurisprudence.*  
FRANCIS MINOT, M.D., *Hersey Professor of the Theory and Practice of  
Physic.*  
JOHN P. REYNOLDS, M.D., *Instructor in Obstetrics.*  
HENRY W. WILLIAMS, M.D., *Professor of Ophthalmology.*  
DAVID W. CHEEVER, M.D., *Adjunct Professor of Clinical Surgery.*  
JAMES C. WHITE, M.D., *Professor of Dermatology.*  
ROBERT T. EDES, M.D., *Assistant Professor of Materia Medica.*  
HENRY P. BOWDITCH, M.D., *Assistant Professor of Physiology.*  
FREDERICK I. KNIGHT, M.D., *Instructor in Percussion, Auscultation,  
and Laryngoscopy.*  
CHARLES B. PORTER, M.D., *Demonstrator of Anatomy and Instructor  
in Surgery.*  
JOHN C. WARREN, M.D., *Instructor in Surgery.*  
REGINALD H. FITZ, M.D., *Assistant Professor of Pathological Anatomy.*  
THOMAS DWIGHT, JR., M.D., *Instructor in Histology.*  
EDWARD S. WOOD, M.D., *Assistant Professor of Chemistry.*  
HENRY H. A. BEACH, M.D., *Assistant Demonstrator of Anatomy.*  
WILLIAM B. HILLS, M.D., *Instructor in Chemistry.*

## OTHER INSTRUCTORS.

- FRANCIS B. GREENOUGH, M.D., *Lecturer on Syphilis.*  
EDWARD WIGGLESWORTH, JR., M.D., *Lecturer on Syphilis.*  
GEORGE H. F. MARKOE, *Instructor in Materia Medica.*  
CLARENCE J. BLAKE, M.D., *Lecturer on Otology.*  
JOHN O. GREEN, M.D., *Lecturer on Otology.*  
JAMES R. CHADWICK, M.D., *Lecturer on the Diseases of Women.*  
CHARLES P. PUTNAM, M.D., *Lecturer on the Diseases of Children.*  
JAMES J. PUTNAM, M.D., *Lecturer on the Diseases of the Nervous  
System.*

STUDENTS.

COURSE FOR GRADUATES.

NAME.	RESIDENCE.
Berry, Horace, M.D.,	Cambridge.
Dow, James Arthur, M.D.,	Cambridge.
Gavin, Michael Freebern, M.D.,	Boston.
Graham, Douglas, M.D.,	Boston.
Smith, Joshua Vincent, M.D.,	Boston.
Williams, Charles Herbert, A.B., M.D.,	Boston.

REGULAR STUDENTS.

Third Class.

Abbott, Fletcher Morton,	Boston.
Brown, Charles William,	Orwell, Pa.
Cabot, Arthur Tracy, A.B.,	Boston.
Caldwell, George Peters,	St. John, N. B.
Dale, William Henry,	Boston.
Deinstadt, William McKay,	Shelburne, N. S.
Finn, James Anthony, A.M. ( <i>Calvert Coll., Md.</i> ),	Lowell.
Gardner, Edwin Fisher,	Eastport, Me.
Gay, Almon Debois,	Belmont.
Gorman, Benedict Fenwick,	Providence, R. I.
Huntington, Thomas Waterman, A.B. ( <i>Univ. Vt.</i> ),	St. Albans, Vt.
Jackson, William Leavitt,	Boston.
Masforroll, Manuel, A.B. ( <i>Santiago de Cuba</i> ),	Santiago, Cuba.
McClean, George Chesley,	Springfield.
McGowan, Charles Edward,	Boston.
Mecuen, George Edward,	Boston.
Moore, Frederick Fisk,	Cambridge.
Morong, Arthur Bennet, A.B. ( <i>Amherst Coll.</i> ),	Boston.
Nichols, Charles Lemuel, A.B. ( <i>Brown Univ.</i> ),	Worcester.
Putney, George Ellis,	Boston.
Rand, Alfred, A.B.,	Boston.
Reardon, Jeremiah John,	Boston.
Robinson, Samuel Quincy, B.S. ( <i>Dart. Coll.</i> ),	Boston.
Sanborn, Wilbur Fisk,	Sandwich, N. H.
Teele, Jonathan Merle, A.B. ( <i>Tufts Coll.</i> ),	Somerville.
Tilden, George Horton, A.B.,	Boston.
Webber, Frank Orlando,	Cambridge.
Wilson, Frederick Morse, A.B. ( <i>Colby Univ.</i> ),	Waterville, Me.
Winn, William Adams, A.B.,	Arlington.

## Second Class.

Bell, William Appleton, A.B.,	<i>Somerville.</i>
Bogman, Edward Young, A.B. ( <i>Brown Univ.</i> ),	<i>Brookline.</i>
Bowen, Seranus,	<i>Boston.</i>
Bridgham, Jairus Greenwood,	<i>Woburn.</i>
Brown, John Coffin Jones, A.B.,	<i>Boston.</i>
Bryant, John, A.B.,	<i>Boston.</i>
Carleton, Robert Marsh, A.B. ( <i>Dart. Coll.</i> ),	<i>Haverhill.</i>
Carolin, William Terence,	<i>Lowell.</i>
Chipman, William Reginald, B.A. ( <i>King's Coll.</i> ),	<i>Halifax, N. S.</i>
Clark, Charles Edward, A.B. ( <i>Bowd. Coll.</i> ),	<i>Portland, Me.</i>
Collins, George Lewis, B.P. ( <i>Brown Univ.</i> ),	<i>Providence, R. I.</i>
Cooper, Charles Wendell, A.B. ( <i>Amherst Coll.</i> ),	<i>Amherst.</i>
Copeland, Frederic Herbert, A.B.,	<i>Stoneham.</i>
Cutter, Charles Kimball, A.B. ( <i>Tufts Coll.</i> ),	<i>Somerville.</i>
Cunningham, Thomas Edward,	<i>Charlottetown, P. E. I.</i>
Deane, Henry Ware, A.M.,	<i>Boston.</i>
Everett, Oliver Hurd, A.B.,	<i>Cambridge.</i>
Fogg, Irving Sylvester,	<i>Norwood.</i>
Fogg, William John Gordon, A.B.,	<i>Boston.</i>
Foley, John Bernard,	<i>Boston.</i>
Forsyth, Frank Lyman,	<i>Weymouth.</i>
Garland, Joseph Everett, A.B.,	<i>Gloucester.</i>
Gould, Lawrence Mirvin,	<i>Boston.</i>
Gunter, Adolphus Birum,	<i>Frederickton, N. B.</i>
Haven, Henry Cecil, A.B. ( <i>Amherst Coll.</i> ),	<i>New London, Conn.</i>
Hooper, Frank Henry,	<i>Boston.</i>
Howard, Arthur Chadwick,	<i>Boston.</i>
Howe, Octavius Thorndike, A.B.,	<i>Cambridge.</i>
Hutchinson, Marcello, A.B.,	<i>Wakefield.</i>
Lamb, Frederic Dan,	<i>Lawrence.</i>
Lindsey, Joseph Ferdinand, A.B. ( <i>Brown Univ.</i> ),	<i>Fall River.</i>
Livingston, Alexander,	<i>Buenos Ayres.</i>
Lopez, Rafael,	<i>Boston.</i>
Lyman, John Chester,	<i>Northampton.</i>
Marion, Otis Humphrey, A.B. ( <i>Dart. Coll.</i> ),	<i>Brighton.</i>
McGrath, Eugene John,	<i>Boston.</i>
McMonagle, Beverly,	<i>Sussex, N. B.</i>
Miller, Charles John,	<i>Pictou, N. S.</i>
Miller, Ernest Parker, A.B.,	<i>Fitchburg.</i>
Miller, Winthrop, A.B.,	<i>Boston.</i>
Murray, Joseph Howe,	<i>Pictou, N. S.</i>
Otis, Edward Osgood, A.B.,	<i>Cambridge.</i>

Parker, Henry Ward, A.B. (*Brown Univ.*),  
Place, Charles Ashton,  
Read, George Mumford,  
Richardson, Maurice Howe, A.B.,  
Sheldon, Chauncey Cooley, A.B.,  
Smith, George Edward,  
Stackpole, Frederick Dabney, A.B.,  
Tilden, Frank Elmer,  
Wheaton, Charles Augustus,

*New Bedford.*  
*E. Walpole.*  
*Providence, R. I.*  
*Fitchburg.*  
*Boston.*  
*Zanesville, O.*  
*Boston.*  
*N. Easton.*  
*Northfield, Minn.*

**First Class.**

Andrews, Almon Ethan,  
Avery, Alonzo Moffitt,  
Ballou, Charles Olney,  
Bancroft, Charles Parker, A.B.,  
Bancroft, Winfred Baxter, A.B. (*Amherst Coll.*),  
Barrett, Richard St. Agnan,  
Bartlett, George Pinkham,  
Bassett, Frederick Eugene,  
Bettencourt, Joseph de Sousa,  
Bickford, George Coburn,  
Brannan, John Winters, A.B.,  
Brown, Simon Van Buren,  
Cabot, James Jackson, A.B.,  
Chandler, Frederick,  
Clifford, Arthur, A.B.,  
Cogswell, Deane, A.B. (*Dart. Coll.*),  
Cummings, Edwin Francis,  
Curley, John Patrick,  
Davis, Thomas Joshua,  
Davis, Warren Russell,  
Deming, William Nelson,  
De Wolfe, James Lovett,  
Dorcey, James Edmund,  
Dunbar, Hervey Orin,  
Dwight, James, A.B.,  
Elliot, John Wheelock, A.B.,  
Ellis, Edward Dyer, A.B. (*Middlebury Coll.*),  
Estle, William Lloyd,  
Farlow, John Woodford, A.B.,  
Fessenden, George Russell, A.B.,  
Fitz, Samuel Eaton, A.B.,  
Flanders, Frank Byron, A.B.,

*Biddeford, Me.*  
*Galena, Ill.*  
*Providence, R. I.*  
*Concord, N. H.*  
*Boston.*  
*Malden.*  
*Boston.*  
*Killingly, Conn.*  
*Boston.*  
*Charlestown.*  
*Cincinnati, O.*  
*Allston.*  
*Boston.*  
*Fryeburg, Me.*  
*New Bedford.*  
*Bradford.*  
*Taunton.*  
*Boston.*  
*Barbadoes, W. I.*  
*Amesbury.*  
*Providence, R. I.*  
*Windsor, N. S.*  
*Boston.*  
*Orange.*  
*Boston.*  
*Keene, N. H.*  
*Fairhaven, Vt.*  
*Taunton.*  
*Newton.*  
*Beaver Falls, Pa.*  
*Boston.*  
*Lawrence.*

Foster, Charles,	<i>Boston.</i>
Foster, James Richards,	<i>N. Attleboro'.</i>
French, Samuel William, A.B.,	<i>Boston.</i>
Galvin, George William,	<i>Boston.</i>
Gannett, William Whitworth, A.B.,	<i>Cambridge.</i>
Geary, John Chapman,	<i>Boston.</i>
Gore, John Flint,	<i>Boston.</i>
Green, Charles Montraville, A.B.,	<i>Medford.</i>
Greenwood, Sewell Elliott,	<i>Hubbardston.</i>
Gregg, John Areole,	<i>Somerville.</i>
Hall, Henry Clement,	<i>Haverhill.</i>
Hamilton, Albinus Otis,	<i>Newton.</i>
Harrington, John Richard,	<i>Cranston, R. I.</i>
Holbrook, Uriah Hopkins, A.B. ( <i>Brown Univ.</i> ),	<i>Providence, R. I.</i>
Homer, Joseph Warren,	<i>Boston.</i>
Hubbard, Frank Allen, A.B.	<i>Taunton.</i>
Hunt, William Otis,	<i>Newtonville.</i>
Hunt, Willis Henry,	<i>Providence, R. I.</i>
Johnson, John Waldo,	<i>Framingham.</i>
Keene, Joseph Wadsworth, A.M. ( <i>Bowd. Coll.</i> ),	<i>Bremen, Me.</i>
Kelley, George Wallace,	<i>Boston.</i>
Kelly, William Philip,	<i>Boston.</i>
Kennealy, John Henry,	<i>Boston.</i>
Kilby, Henry Sherman, A.B.,	<i>Boston.</i>
Leach, Charles Franklin,	<i>Cambridge.</i>
Leland, George Adams, A.B. ( <i>Amherst Coll.</i> ),	<i>Boston.</i>
Lombard, Frederic Howard, A.B.,	<i>Boston.</i>
MacDonald, Michael Allan,	<i>Cape Breton.</i>
Marston, Enoch Quimby,	<i>Lowell.</i>
Mathewson, Charles Brenton, A.B. ( <i>Brown Univ.</i> ),	<i>E. Greenwich, R. I.</i>
McCormick, Cornelius Joseph,	<i>Boston.</i>
McEtrick, John Finan,	<i>Boston.</i>
Meador, Charles Eugene,	<i>Wilton, Me.</i>
Mills, George Westgate, B.S. ( <i>Agric. Amherst</i> ),	<i>Medford.</i>
Minot, James Jackson, A.B.,	<i>Boston.</i>
Moore, David Richard,	<i>Fredericton, N. B.</i>
Morris, Thomas Hollingsworth,	<i>Baltimore, Md.</i>
Morse, Henry Lee, A.B.,	<i>Boston.</i>
Moseley, William Oxnard, A.B.,	<i>Boston.</i>
Moses, Theodore William, A.B.,	<i>Exeter, N. H.</i>
Noble, Arthur,	<i>Boston.</i>
Penteado, José Bonifacio Leite,	<i>San Paulo, Brazil.</i>
Perkins, Thomas Lyman,	<i>Salem.</i>

Perrigo, Lorenzo Jarvis,	<i>Milford.</i>
Perry, Eben Greeley,	<i>Boston.</i>
Phelan, Arthur Quin,	<i>Lowell.</i>
Platt, Walter Brewster, PH. B. ( <i>Yale Coll.</i> ),	<i>Waterbury, Conn.</i>
Rankin, Henry William,	<i>Madison, N. J.</i>
Read, Robert McLellan,	<i>Boston.</i>
Richards, Huntington, A.B.,	<i>Geneva, N. Y.</i>
Rives, William Cabell, B.A. ( <i>Oxford, Eng.</i> ),	<i>Boston.</i>
Shaw, Thomas Pierpont, A.M., LL.B.,	<i>Lowell.</i>
Shepardson, Oscar Jerome,	<i>Chester.</i>
Smith, Frederick Arnold,	<i>Springfield.</i>
Smith, Sheffield, Jr.,	<i>N. Providence, R. I.</i>
Souther, William Towle, A.B. ( <i>Yale Coll.</i> ),	<i>Worcester.</i>
Spalding, Charles Parker, A.B.,	<i>Lowell.</i>
Stone, Byron,	<i>N. Oxford.</i>
Stronach, Abraham Booth,	<i>Wilmot, N. S.</i>
Swift, John Baker, A.B. ( <i>Amherst Coll.</i> ),	<i>Brooklyn, N. Y.</i>
Swift, William Jonathan, A.B. ( <i>Amherst Coll.</i> ),	<i>Brooklyn, N. Y.</i>
Trouvelot, George Hypolite Etienne,	<i>Cambridge.</i>
Trundy, Thomas Ripley,	<i>Somerville.</i>
Tsuchiga, Seiken,	<i>Japan.</i>
Tuttle, George Thomas, A.B. ( <i>Dart. Coll.</i> ),	<i>Northwood, N. H.</i>
Walker, Charles Rumsford, A.B. ( <i>Yale Coll.</i> ),	<i>Concord, N. H.</i>
Weiss, Henry Ware,	<i>Boston.</i>
Weitbrecht, George,	<i>Pittsburg, Pa.</i>
White, Luther Robinson, A.B. ( <i>Bates Coll.</i> ),	<i>Lewiston, Me.</i>
Whittemore, Fred Webster,	<i>Cambridge.</i>
Woodward, Samuel Bayard, A.B.,	<i>Worcester.</i>
Wyman, Samuel Edwin, A.B.,	<i>Arlington.</i>
Yenetchi, Henry Ainsworth,	<i>Charlestown.</i>
Young, Parker Ambrose,	<i>Boston.</i>

# SUMMARY.

GRADUATES . . . . .	6
THIRD CLASS . . . . .	29
SECOND CLASS . . . . .	51
FIRST CLASS . . . . .	106
Total . . . . .	192

## DIVISION OF STUDIES.

*First year.* — Anatomy, Physiology, and General Chemistry.\*

*Second year.* — Medical Chemistry, Materia Medica, Pathological Anatomy, Theory and Practice of Medicine, Clinical Medicine, and Clinical Surgery.

*Third year.* — Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

## COURSE OF INSTRUCTION.

The following methods of instruction are adopted in the several departments : —

*Anatomy.* — Lectures ; various practical exercises, including abundant dissection under the direction of the Demonstrator ; recitations from text-books ; histology.

*Physiology.* — Lectures, recitations, and practical demonstrations in the laboratory. To students of the third class opportunities are given for original investigations in the laboratory.

*Chemistry* is taught mainly by practical work in the laboratory, the student having his own desk and apparatus. General Chemistry and qualitative analysis are taught during the first year. Besides the laboratory work, there is a lecture and a recitation every week. In the second year, medical chemistry is taught by lectures and laboratory work.

*Pathological Anatomy* is taught by lectures, recitations, and practical instruction in pathological histology. The collection of the Warren Anatomical Museum is used to illustrate the lectures, and many morbid specimens are shown in a fresh state. Students also receive practical instruction in the method of making autopsies, to which they are admitted at both hospitals. Special classes in pathological histology, including the diagnosis of tumors, are formed for those who are provided with a microscope. Such students are required to prepare the various objects. The school possesses a number of microscopes for the use of those students whose means will not permit the purchase of an instrument.

*The Theory and Practice of Medicine.* — Lectures, recitations, and hospital visits.

*Clinical Medicine.* — Daily instruction is given in this department by hospital visits and other exercises. Students are furnished with cases for personal examination, and are called upon to report them before the class, where they are criticised. These examinations are held both in

\* Any student who shall have previously passed in the Undergraduate Department or Scientific School of Harvard University an examination in General Chemistry will be exempt from examination in this branch, and may pursue the study of Medical Chemistry during his first year.

the wards and in the amphitheatre. Another exercise, known as the "Clinical Conference," affords an opportunity for more thorough preparation of cases, more time being allowed for their study. The full written report of a case is read by the student who has examined it. It is afterwards criticised by the class, by the Professor of Clinical Medicine, and other teachers in the school. In addition to this, a regular course of supplementary instruction is given in Auscultation and Percussion, and in Laryngoscopy, which affords students an abundant opportunity for acquiring a thoroughly practical knowledge of these methods of exploration.

*Surgery.*—Lectures and recitations. There are also courses on Surgical Anatomy, Minor Surgery, Surgical Histology, Bandaging, and Operative Surgery. In the latter, students of the third class are supplied with material for repeating the usual surgical operations.

Instruction in Clinical Surgery is given at the Massachusetts General Hospital and City Hospital throughout the year as follows:—

#### FIRST TERM.

Clinical Lectures on cases, per week, 2; Surgical Visits in the hospital wards, per week, 3; public operating days, per week, 2. Per week, 6.

#### SECOND TERM.

Clinical Lectures on cases, per week, 1; Surgical Visits in the hospital wards, per week, 3; public operating days, per week, 3. Per week, 7.

The Adjunct Professor of Clinical Surgery holds an exercise twice a week, in winter, at the City Hospital.

Clinical Surgery is there taught, in two ways: 1st, by bedside examinations of the students in the hospital wards; 2d, by a surgical conference, at which the advanced students make a full report of a surgical case in writing, which is then criticised by their fellow-students, and by the Adjunct Professor. The case is completed, whenever practicable, by an exhibition of, or operation on, the patient, — on the spot.

*Materia Medica and Therapeutics.*—*Materia Medica* is taught by lectures and practical demonstrations. *Therapeutics*, or the physiological action of drugs and their application to disease, are taught in the third year by lectures.

*Obstetrics.*—Lectures and recitations. Students are instructed in the usual operations on the manikin, and will have opportunities to take charge of cases of midwifery in their third year.

*Diseases of Women and Children.*—Lectures and recitations.

*Mental Diseases.*—Lectures.

*Ophthalmology.*—A complete course is delivered upon the diseases of the eye.

*Dermatology* is taught by lectures and clinical illustrations. The large



number of out-patients at the Massachusetts General Hospital furnishes ample opportunities for illustration.

*Syphilis*. — Recitations and clinical instruction.

*Otology*. — Lectures and clinical instruction.

*Laryngoscopy, Auscultation, and Percussion*. — Lectures and Demonstrations.

*Diseases of the Nervous System*. — Lectures with Demonstrations at the Massachusetts General Hospital.

### TEXT-BOOKS.

The following works are recommended as text-books and for collateral reading:—

#### *Text-books.*

Gray, Wilson, Leidy.  
Hodges's Practical Dissections.  
Holden's Manual.

#### *Collateral Reading.*

#### ANATOMY.

Quain (Edition of 1867).  
Holden's Osteology.  
Stricker's Manual of Histology.  
Frey's Microscopic Technology.  
Tyson's Cell Doctrine.

#### PHYSIOLOGY.

Dalton's Human Physiology.	Pavy on Food and Dietetics.
Carpenter's Principles of Human Physiology.	Hermann, Grundriss der Physiologie der Menschen.
Kirke's Handbook of Physiology.	Fick, Compendium der Physiologie.
Huxley's Elementary Lessons in Physiology.	Fick, Medicinische Physik.
	Sanderson's Hand-book for the Physiological Laboratory.
	Flint's Physiology of Man.

#### GENERAL CHEMISTRY.

Bloxam's Chemistry.	Miller's Elements of Chemistry.
Galloway's Qualitative Analysis.	

#### MEDICAL CHEMISTRY.

Hanley on Urine.	Ralfe, Outlines of Physiological Chemistry.
Reese's Manual of Toxicology.	Gorup-Besanez, Physiologische Chemie.
	Neubauer und Vogel, Analyse des Harns.
	Taylor, on Poisons.
	Tardieu, Étude médico-légale et clinique sur l'Empoisonnement.

**MATERIA MEDICA.**

Parrish's Pharmacy.	United States Dispensatory.
United States Pharmacopœia.	

**PATHOLOGICAL ANATOMY.**

Virchow's Cellular Pathology.	Rokitansky's Pathological Anat- omy.
Niemeyer's Text-book of Practical Medicine.	Rindfleisch's Pathological Histol- ogy.
	Delafield's Post-Mortem Examina- tions.

**THERAPEUTICS.**

H. C. Wood's Therapeutics.	Ringer's Therapeutics.
Stillé's Therapeutics and Materia Medica.	Nothnagel, Arzneimittellehre.

**OBSTETRICS.**

Leishman's System of Midwifery.	Cazeaux's Midwifery.
Schroeder's Manual of Midwifery.	

**THEORY AND PRACTICE.**

Flint's Practice of Medicine.	Reynolds's System of Medicine.
Da Costa's Medical Diagnosis.	Aitken's Science and Practice.

**SURGERY.**

Bryant's Practice of Surgery.	Heath's Minor Surgery and Ban- daging.
Billroth's Surgical Pathology.	Bellamy on Surgical Anatomy.
	Guérin, Éléments de Chirurgie Opératoire.
	Holme's System of Surgery.
	Cooper's Surgical Dictionary (1872.)

The tabular views on the following pages will illustrate the distribu-  
tion of studies throughout the year :—

## SECOND TERM, 1873-74.

Hour.	Class.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8	2 3	M. G. H. } Med. M. G. H. } Vis.	After April 1st. City Hospital	Clin. Conference. Clin. Conference.	M. G. H. } Med. M. G. H. } Vis.	Otol. L. aft. May 1.	Dis. of Children.
9	1 2 3	Path. Anat. L. Path. Anat. L.	City H. } Med. City H. } Visit.	Dermatology. Clin.	Chemistry. R. City Hospital. C. H. Opa. & Otol.	Chemistry. R. City Hospital. C. H. Opa. & Otol.	Clinical Medicine. Clinical Medicine.
10	1 2 3	Chemistry. L. Clin. Medicine. Clin. Medicine.	City H. } Surgical City H. } Conf.	Physiology. R. M. G. H. } Surg. M. G. H. } Vis.	Path. Anat. L. Path. Anat. L.	City H. } Surg. City H. } Visit.	Physiology. R. M. G. H. } Surg. M. G. H. } Visit.
11	1 2 3	Physiology. L. The. & Prac. L. The. & Prac. L.	Surgery. L. Surgery. L.	M. G. H. } Opera- M. G. H. } tions.	Thoracic Diseases. Clin. Surgery.	Physiology. L. City H. } Ophthal. City H. }	M. G. H. } Opera- M. G. H. } tions.
12	2 3	Surg. L. } After Surg. L. } April 15.	The. & Prac. L. The. & Prac. L.	Chemistry. L.	Surgery. R. Obstetrics. L.	Electrotherap.	
1	1 2 3	Anat. L. till May. Surg. Hist. } after Surg. Hist. } M'y 1.	An. L. or R. till M'y. Hygiene. L.	Anat. L. till May. Surg. Hist. } after Surg. Hist. } May.	Anat. R. till May. Theo. & Prac. R.		
3	1 2 3	Histology. Path. Micros. Path. Micros.	Path. Anat. R. Path. Anat. R.	Materia Med. R. Diseases of Women.	Histology. Path. Micros. Path. Micros.	Path. Anat. R. Path. Anat. R.	
4	3	Obstetrics. R.	Dermatology. L.	Therap. L.	Otol. after May 1.	Therap. L.	Veneral Diseases.
5	1	Prac. Anat. till May 1.	Prac. Anat. till May 1.	Prac. Anat. till May 1.	Prac. Anat. till May 1.	Prac. Anat. till May 1.	

# FIRST TERM, 1874-75.

## FIRST YEAR.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Laboratory. Histology, after Jan. 1.	Laboratory.	Laboratory.	Laboratory. Histology, after Jan. 1.	Laboratory.	Laboratory.
10	Laboratory. Histology, after Jan. 1.	Laboratory.	Laboratory.	Laboratory. Histology, after Jan. 1.	Chemistry. R.	Physiology. R.
11	Physiology. L.	Physiology. L.	Laboratory.	Laboratory.	Physiology. L.	
12	Laboratory.	Chemistry. L.	Laboratory.	Laboratory.	Laboratory.	
1	Anatomy. L. Last 11 w'ks.	Anatomy. L.	Anat. R. 1st 8 weeks. Anat. L. last 11 weeks	Anatomy. L.	Anatomy. R.	
5	Practical Anatomy. After Jan. 1.	Practical Anatomy. After Jan. 1.	Practical Anatomy. After Jan. 1.	Practical Anatomy. After Jan. 1.	Practical Anatomy. After Jan. 1.	

## SECOND YEAR.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	M. G. Hosp. Med. Visit.	City Hospital. Med. Visit.	Clinical Medicine.	M. G. Hosp. Medical Visit.	City Hospital Ophthal.	Chemistry. R.
10	Auscultation and Percussion.	After Dec. 1, Surg. Conf.		Materia Medica.	City Hospital. Surg. Visit.	M. G. Hosp. Surg. Visit.
11	Clinical Surgery. L.		Auscultation and Percussion.	Materia Medica.	City Hospital. Ophthal.	M. G. H. Operations.
12	Pathological Anatomy. L.					
1			Chemistry. L.			Museum.
3	Pathological Microscopy.	Pathological Anatomy. R.	Pathological Anatomy. L.	Pathological Microscopy.	Pathological Anatomy. R.	
3½	City Hospital Med. Visit.					
4			Surgery. R.	Clinical Conference.		
5	Prac. Anat. Till Jan. 1.	Prac. Anat. Till Jan. 1.	Prac. Anat. Till Jan. 1.	Prac. Anat. Till Jan. 1.	Prac. Anat. Till Jan. 1.	

## THIRD YEAR.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	M. G. Hosp. Medical Visit Eye and Ear Infirmary	City Hospital. Medical Visit.	Clinical Medicine.	M. G. Hosp. Medical Visit. Eye and Ear Infirmary.	City Hospital. Ophthal. and Otology.	Theory and Practice. L.
10	Th. & Pr. L. Eye and Ear Infirmary.	After Dec. 1, Surg Conf.	Dermatology. Clinic.	Dis. Nervous System. Eye and Ear Infirmary.	City Hospital. Surg Visit.	M. G. Hosp. Surg. Visit.
11	Clinical Surgery. L.		Surgery. L.	Surgery. L.	City Hospital. Operations.	M. G. Hosp. Operations.
12	Obstetrics. L.	Surgery. L. Till Dec.	Obstetrics. L.	Obstetrics. R.	Venereal Diseases.	
1						Museum.
3		Theory and Practice. R.		Theory and Practice. R.		
3½	City Hospital. Medical Visit					
4		Dermatology. L.	Therapeutics. L.	Clinical Conference.	Therapeutics. L.	
5	Otology.					

## CLINICAL ADVANTAGES.

The Medical Department of the University is established in Boston, in order to secure those advantages for Clinical Instruction and for the study of Practical Anatomy which are found only in large cities.

There are Hospital visits or operations daily.

*The Massachusetts General Hospital.*—During the past year 1,700 patients were treated in the wards, and 13,517 in the out-patient departments. Patients are received from all parts of the United States and the Provinces, and are visited by the students with the attending physicians and surgeons. The opportunities for becoming acquainted with general surgery are very great. Operations are numerous, and are performed in the amphitheatre, which is provided with seats for 400 persons. Clinics in the following special branches have recently been established in connection with the out-patient department: Dermatology, Laryngoscopy, Electro-therapeutics.

The Hospital is adjacent to the Medical College, and its wards are open to the students on four days in the week.

*The City Hospital.* — During the past year 3,435 cases were treated in its wards, and 9,272 in its various out-patient departments. The Medical wards always contain many cases of acute diseases, and changes are taking place constantly. The opportunities for seeing fractures, injuries, and traumatic cases of all kinds, are excellent, since, on an average, 400 street accidents are yearly treated. Surgical operations are performed in the amphitheatre. These include general surgical and also ophthalmic operations. Diseases of the eye, the ear, and the skin are largely treated in the out-patient department. Clinical instruction is given by the physicians and surgeons twice a week.

In these two Hospitals the facilities for witnessing Operative Surgery are unsurpassed. Twice a week in the first term, and three times a week in the second term, operations are performed in the presence of the class. The number of these operations is large, reaching nearly *two thousand* a year. The variety is great, embracing every surgical disease and injury, including the surgical operations on the eye and ear.

*The Massachusetts Charitable Eye and Ear Infirmary.* — The six thousand patients annually treated at this institution present every variety of disease of the eye and ear, and supply a large number of operations.

*The Marine Hospital at Chelsea* receives from the shipping of the port a large number of patients who furnish examples of the diseases of foreign countries, and of distant parts of the United States. Many cases of venereal disease in its various stages are treated annually.

*The Boston Dispensary.* — Thirty thousand patients were treated at this Public Charity during the past year. Students have excellent opportunities to see minor surgery, and many of the diseases of children, and to practise auscultation and percussion.

*Hospital Appointments.* — From eighteen to twenty students are selected annually for House Officers of the various Hospitals. Appointments to the Lying-in-Hospital are for a shorter term.

## EXAMINATIONS.

The regular examinations are held in the following order: —

*At the end of the first year:* Anatomy, Physiology, and General Chemistry.\*

*At the end of the second year:* Medical Chemistry, Materia Medica, and Pathological Anatomy.

*At the end of the third year:* Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

The regular examinations are held at the end of each year in June; and a week before the opening of the school in September, on the studies of the preceding year. There is also an examination in February for

\* See foot-note on page 110.

those who apply for advanced standing on entering the school at that time, and for those who have failed in some previous examination.

No student shall be allowed to anticipate the examinations in the regular course of studies of his year, except by special permission of the Faculty. No student shall be allowed to present himself for examination in any branch without notifying the Dean by letter that he intends to do so, one month before the time when the examination is to be held.

The examinations are conducted mainly in writing. The examination in Clinical Medicine is conducted in part at the bedside. For specimens of the latest examination-papers, see pp. 288-98. No student will receive his degree until he has passed a satisfactory examination in all the above-mentioned subjects, and presented a certificate from the Demonstrator of Anatomy that he has satisfactorily dissected the three parts of the body. Those who fail in any subject may present themselves in that subject again at the next regular examination. The regular examinations for the year 1874-75 will begin February 8, June 16, and September 27.

#### DIVISION OF STUDENTS.

Students are divided into three classes, according to their time of study and proficiency.

Students may be admitted to advanced standing in the regular course, but all who apply for admission into the second or third year's class must pass an examination in the branches already pursued by the class to which they seek admission, and furnish a satisfactory certificate of time spent in medical studies. No student shall advance with his class, or be admitted to advanced standing, until he has passed the required examination in the studies of the year, or a majority of them; nor shall he become a member of the third class until he has passed all the examinations of the first in addition to a majority of those of the second year.

Students who do not intend to offer themselves for a degree will, however, be received at any part of the course for one term or more.

Any student may obtain, without an examination, a certificate of his period of connection with the School.

#### REQUIREMENTS FOR A DEGREE.

Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three full years; have spent at least one continuous year at this School; have presented a satisfactory thesis; and have passed the required examinations.

The degree of Master of Arts is open to graduates of the School, who are also Bachelors of Arts, and who pursue an approved course of study in Medicine for at least one year after taking the degree of Doctor of Medicine. For further information, see pages 185-88.

## LIBRARIES.

The library at the Medical College is open to the student on the deposit of five dollars, to be refunded to him when he may desire, after returning all books.

The College Library at Cambridge is open to the students of the Medical School.

The Boston Public Library, which contains a large collection of medical books, may also be used by students recommended by the Dean.

## BOYLSTON MEDICAL SOCIETY.

This society, composed of medical students, meets at stated intervals for the discussion of medical topics, and is presided over by a physician selected by the members. Prizes, in money or books, are awarded annually to the writers of essays judged worthy of such distinction by a committee of physicians selected for that purpose by the society.

## FEES AND EXPENSES.

For matriculation, five dollars; for a year, two hundred dollars (if in two payments, at the first, one hundred and twenty dollars; at the second, eighty dollars); for one term alone, one hundred and twenty dollars; for graduation, thirty dollars. Of students who do not pay in advance, a bond, executed by two sufficient bondsmen, one of whom must be a citizen of Massachusetts, is required. A copy of such bond will be sent on application to the Secretary of the Faculty. To students depositing these bonds, term-bills will be presented a week before the end of the first term, to be paid within two weeks; and also one week or more before Commencement, to be paid on or before the beginning of the next academic year. No degree can be conferred till all dues to the School are discharged. The student's expenses may be reduced, in accordance with his means, to the standard which prevails in other cities. The janitor of the Medical College will advise students in the selection of boarding places, and will always have a list of such as are in the vicinity of the College building, varying in their rate of charges.

Students on joining the School must enter their names with the Secretary of the Faculty.



## COURSE OF STUDY FOR GRADUATES.

For the purpose of affording to those who are already graduates in medicine additional facilities for pursuing clinical, laboratory, and other studies, for which they had not previously found leisure, in such subjects as may specially interest them, and as a substitute in part for the opportunities heretofore sought for in Europe, the Faculty have established a post-graduate course, of which the following is a programme:—

*Histology.*—The various methods of examining the different tissues are employed, and opportunities for original research are offered. Fee twenty dollars per term.

*Physiology.*—Opportunities for original investigation in the Physiological laboratory. Fee thirty dollars per term.

*Medical Chemistry.*—Practical instruction in the Chemical laboratory in the analysis of the urine and other animal fluids in health and disease, and of poisons; examination of blood-stains and other objects connected with medico-legal investigations, with the application of the microscope to these processes. General analysis also, if desired. Laboratory fee thirty dollars per term.

*Pathological Anatomy.*—Practical instruction in pathological Histology and the examination of specimens in the Microscopical laboratory; and opportunity for witnessing and making autopsies. Fee twenty dollars per term.

*Surgery.*—A practical course of operative surgery and instruction in the application of bandages and apparatus. Fee fifteen dollars per term.

*Auscultation, Percussion, and Laryngoscopy* practically taught, and diseases of the larynx demonstrated by the aid of the oxyhydrogen light. Fee twenty dollars per term.

*Ophthalmology.*—Clinical instruction, lectures on diseases of the eye, and demonstrations of the methods of performing operations. Exercises in the use of the ophthalmoscope. Fee twenty-five dollars per term.

*Otology.*—Lectures and clinical instruction on diseases of the ear. Fee fifteen dollars per term.

*Dermatology.*—Clinical instruction in diseases of the skin, illustrated by patients in this department of the Massachusetts General Hospital. Lectures. Fee twenty-five dollars per term.

*Syphilis.*—Clinical instruction at the Boston Dispensary and the Marine Hospital. (Second term.) Fee fifteen dollars.

*Psychological Medicine.*—Lectures on nervous and mental diseases. (Second term.) Fee five dollars.

*Diseases of the Nervous System.* — Practical illustrations of the application of various forms of electricity. Lectures. Fee fifteen dollars per term.

*Gynæcology.* — Lectures on diseases of women. (Second term.) Fee ten dollars.

*Obstetrics.* — Cases supplied. Fee ten dollars.

Those pursuing this course may elect the studies to which they will give their attention, and allot the time they will devote to each. They will be exempt, unless at their option, from examinations, and may obtain a certificate of attendance on this course of advanced study. On payment of the full fee for the course, they will have the privilege of attending any of the other exercises of the Medical School, the use of its laboratories and library, and all other rights accorded by the University.

Graduates of other medical schools who may desire to obtain the degree of M.D. at this University will be admitted to examination for this degree after a year's study in the graduates' course.

The fee for a year is . . . . .	\$200
„ for one term . . . . .	120

And for any of the special courses such fees as are above specified.

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For further information or catalogues address

DR. R. H. FITZ, *Secretary,*

108 Boylston Street, Boston, Mass.

 The Medical College is on North Grove Street, Boston.

# DENTAL SCHOOL.

BOSTON.

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## FACULTY.

CHARLES W. ELIOT, LL.D., *President.*

THOMAS H. CHANDLER, D.M.D., *Dean, and Professor of Mechanical Dentistry.*

OLIVER W. HOLMES, M.D., *Professor of Anatomy.*

HENRY J. BIGELOW, M.D., *Professor of Surgery.*

———, *Professor of Dental Pathology and Therapeutics.*

GEORGE T. MOFFATT, M.D., D.M.D., *Professor of Operative Dentistry.*

HENRY P. BOWDITCH, M.D., *Assistant Professor of Physiology.*

CHARLES B. PORTER, M.D., *Demonstrator of Practical Anatomy.*

LUTHER D. SHEPARD, D.D.S., *Adjunct Professor of Operative Dentistry.*

NATHANIEL W. HAWES, *Assistant Professor of Operative Dentistry.*

EDWARD S. WOOD, M.D., *Assistant Professor of Chemistry.*

CHARLES A. BRACKETT, D.M.D., *Instructor in Dental Therapeutics.*

WILLIAM HERBERT ROLLINS, D.M.D., *Instructor in Dental Pathology.*

## OTHER INSTRUCTORS.

EDWARD A. BOGUE, M.D., *Lecturer on Dental Pathology and Therapeutics.*

IRA A. SALMON, D.D.S., *Lecturer on Operative Dentistry.*

CHARLES WILSON, D.M.D., *Demonstrator in Charge.*

GEORGE F. GRANT, D.M.D., *Demonstrator of Mechanical Dentistry.*

## STUDENTS.

### NAMES.

Bartlett, Frank Dana,  
Beals, Edward Alden,  
Bliss, Frank Wilbur,  
Bradley, Charles William,  
Bradley, Thomas,

### RESIDENCE.

Boston.  
Stamford, Conn.  
Aurora, Ill.  
Haverhill.  
Holyoke.

Brann, Oscar Berlin,  
 Buxton, Charles Albert,  
 Coolidge, Charles Wesley,  
 Curtis, Samuel Hastings,  
 Deming, Daniel Webster,  
 Dunkel, Henry Francis,  
 Eddy, Forrest Greenwood,  
 Emery, Samuel Eliphalet,  
 Fiske, John M'Kenzie Campbell,  
 Fitzgerald, Gerald,  
 Gale, Willis Henry,  
 Harris, John Lincoln,  
 Hewson, William Chandler,  
 Hitchcock, Edward Bigelow,  
 Jarvis, William,  
 Jewett, Edgar Morton,  
 Lawrence, George Otis,  
 McKay, John Albert,  
 McKyes, Henry Stuart,  
 Morong, Joseph Traverse,  
 Munger, Elijah,  
 Page, Washburn Edward,  
 Parker, Wilbur Bates,  
 Pugsley, Daniel Alvah,  
 Robbins, Jesse,  
 Salmon, George Allen,  
 Stackhouse, Benjamin Stevens,  
 Strawn, David Gates,  
 Taft, Ezra Fletcher,  
 Walton, Alfred,  
 Ware, Albert Edson,  
 White, Charles Henry,  
 Whitman, Eben Francis,

*Auburn, Me.*  
*Salem.*  
*Hancock, N. H.*  
*Boston.*  
*Clifton Springs, N. Y.*  
*Boston.*  
*Providence, R. I.*  
*Newburyport.*  
*St. John, N. B.*  
*San Francisco, Cal.*  
*Chicago, Ill.*  
*Worcester.*  
*Westmoreland, N. B.*  
*Newton.*  
*Claremont, N. H.*  
*Manchester.*  
*Boston.*  
*Boston.*  
*Montreal, Canada.*  
*Ipswich.*  
*North Adams.*  
*Boston.*  
*Boston.*  
*St. John, N. B.*  
*Salem.*  
*Boston.*  
*Montreal, Canada.*  
*Boston.*  
*Dedham.*  
*Boston.*  
*Natick.*  
*Bristol, N. H.*  
*East Bridgewater.*

The Dental Department of the University is established at Boston, in order to secure in connection with the Medical Department those advantages for Clinical Instruction which are found only in large cities.

Instruction in this School is given throughout the academic year, and is divided into two equal terms. The first or *Winter Term* commences on the Thursday following the last Wednesday in September, and continues nineteen weeks. After a recess of one week, the *Spring Term* commences, and continues till the last Wednesday in June. There is also a recess of one week at Christmas. Attendance upon the *Winter Terms only* is required for graduation.

The Spring Terms are designed as an equivalent, entirely or in part, to pupilage with private preceptors, and afford better and more comprehensive instruction than can possibly be obtained in a private office. Operative and Mechanical Dentistry are taught daily by practical work in the Infirmary and Laboratory. Anatomy, Physiology, Chemistry, and Surgery are taught as fully as during the Winter Term. Practical Anatomy is taught in the Dissecting-Room till May.

It is the object of the Faculty to present a complete course of instruction in the theory and practice of dentistry; and, for this purpose, a well appointed laboratory and infirmary are provided, and such arrangements made as insure an ample supply of patients. Clinical instruction is given by the professors; and, under the direction of Demonstrators, patients are assigned to the students, insuring to all opportunity of operating at the chair, and becoming by actual practice familiar with all the operations demanded of the dentist.

The Infirmary, which is a department of the Massachusetts General Hospital, remains open, and the Demonstrator is in attendance, daily, throughout the year, offering to students unsurpassed facilities for acquiring practical knowledge and manipulative dexterity. Upwards of eight thousand operations have been performed upon seventy-two hundred patients the past year.

Graduates of other dental schools, or practitioners of dentistry or of general medicine, may, if they wish, take a special course in any of the various departments taught, by matriculating and purchasing a ticket for the desired course.

Students have access to the hospitals of the city; to the dissecting room, library, and museum of the Medical College; and also, *without additional charge, to the instruction given in any other department of the University, with the exception of exercises carried on in the special laboratories.* (See page 138.)

### COURSE OF INSTRUCTION.

The following are the methods of study adopted in the various departments:—

*Anatomy.*—Lectures, largely illustrated by the anatomical preparations and models of the Warren Museum, and by an extensive series of colored drawings and diagrams; various practical exercises, including abundant dissection under the direction of the Demonstrator; recitations from text-books; histology.

*Physiology.*—Lectures, recitations, and practical demonstrations in the laboratory. A new physiological laboratory has been fitted up, which is under the supervision of an able teacher, who devotes his whole time to this department.

*Chemistry* is taught mainly by practical work in the laboratory, each student having his own desk and apparatus. Besides the laboratory work, there is a lecture and a recitation every week.

*Surgery.*—Lectures and recitations. The surgical lectures are illustrated by a magnificent collection of colored drawings, and by recent and morbid specimens. All the new and approved surgical instruments and apparatus are exhibited, and their use explained. In addition to operations on the living subject at the hospitals, operative surgery is taught, and operations are performed upon the dead body, as a part of the illustrations of the surgical lectures. A course of lectures in Oral Surgery will be given during the winter.

Instruction in clinical surgery is given at the Massachusetts General Hospital and City Hospital every week.

*Operative Dentistry.*—The instruction in this department is both didactic and practical. The professor and assistants endeavor to demonstrate all known methods of performing operations upon the teeth and other tissues involved.

The treatment of irregularities, origin and treatment of decay, materials used for filling teeth, the most improved instruments used in operating, &c., are appropriately treated of. Clinics are held at the Infirmary, and every available means used to make the student practically acquainted with all the modern improvements of this important branch of dental science.

*Dental Pathology.*—The instruction from this chair will include the origin and development of the dental and adjacent tissues, and their various pathological conditions. A course of lectures on some special subjects relating to dental pathology and therapeutics is delivered during the winter by the Lecturer in this department. The Lectures are illustrated, not only by the aid of the collection of pathological specimens belonging to the School, but also by models and diagrams.

Instruction is also given in microscopy as applied to dental histology; a valuable collection of microscopical objects being used to illustrate the formation and structure of the dental tissues.

*Dental Therapeutics.*—The instruction from this chair embraces the application of the general principles of medicine to the specialty of dentistry, with a consideration of sensitive dentine, caries, pulpitis, periodontitis, alveolar abscess, gingivitis, necrosis, and other diseased conditions of the dental and contiguous tissues, with reference to their treatment, and the therapeutical agents used therefor.

*Mechanical Dentistry.*—Lectures and practical work in the laboratory; the manner in which mineral teeth are constructed to meet all cases, both special and general; the principles and method of carving and furnace-work, and all compounds used for artificial teeth; also metallurgy, and

the manner in which gold and silver plates are prepared and adapted to the mouth ; the use of rubber and other articles as bases. It is the aim of the professor to teach not only the mere mechanical processes of dentistry, but that combination of art with mechanism which enables the practitioner to effect so much in restoring the symmetry of the face, and usefulness of the teeth, where they have been lost or impaired by accident or disease.

### LIBRARIES.

The Library at the Medical College is open to the student on the deposit of five dollars, to be refunded to him upon returning all books.

The College Library, at Cambridge, is open to students.

The Boston Public Library is also open to all students.

### QUALIFICATIONS FOR GRADUATION.

The degree of Doctor of Dental Medicine (*Dentariæ Medicinæ Doctor*) may be conferred upon each candidate of adult age, and of good moral character, who shall have pursued his professional studies three years under competent instructors, and attended two full courses in this institution ; except that a certificate of attendance upon one course of lectures in any respectable Dental or Medical College may be considered a substitute for the first course ; provided such candidate maintain a thesis, and undergo an examination to the satisfaction of the Faculty, and convince the professors of Operative and Mechanical Dentistry of his ability to meet satisfactorily the requirements of his art.

He must also deposit with the Dean, to be placed in the Museum of the College, a specimen of mechanical dentistry, or of practical or pathological anatomy, prepared during the course under the eye of the instructor.

Graduates of other Dental Schools who desire to obtain the Dental Degree of this University will be admitted to examination after attendance upon one Winter Course of instruction.

### TEXT-BOOKS.

Gray's, Wilson's, or Quain's Anatomy.	Wedl's Pathology of the Teeth.
Dalton's or Marshall's Physiology.	Tomes' Dental Surgery.
Roscoe's or Fowne's Chemistry.	Garretson's Oral Surgery.
Druitt's Surgeon's Vade Mecum.	Heath on the Jaws.
Taft's Operative Dentistry.	Dunglison's Medical Dictionary.
Richardson's Mechanical Dentistry.	

## FEES.

Matriculation Fee, paid but once . . . . .	\$5.00
Summer Session . . . . .	50.00
Winter Session . . . . .	110.00
For the year, one payment . . . . .	150.00

For further information, address

THOS. H. CHANDLER, D.M.D., *Dean,*  
222 Tremont Street, Boston, Mass.

## DAILY ORDER OF EXERCISES, WINTER TERM, 1874-75.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Mechanical Dentistry. L.	Dental Pathology. L.	Dental Lab.	Dental Lab.	Dental Lab.	Dental Lab.
10	Dental Lab.				Chemistry. R.	Physiology. R.
10½				Every other week Dent. Ther.		
11	Physiology. L.	Physiology. L.	Surgery. L.		Physiology. L.	Operations. M. G. H.
12		Chemistry. L.				
1	Anat. Lec. last 11 w'ks.	Anatomy. Lec.	Anat. R. 1st 8 weeks. Lec. last 11 weeks.	Anatomy. Lec.	Anatomy. R.	
2	Infirmary.	Infirmary.	Infirmary.	Infirmary.	Infirmary.	
4	Op. Dent. L. or Clinic.	Op. Dent. L. or Clinic.	Op. Dent. L. or Clinic.	Op. Dent. L. or Clinic.	Op. Dent. L. or Clinic.	

The Demonstrator of Anatomy will be present in the Dissecting Room every afternoon.

Chemistry daily in Chemical Laboratory.

The Demonstrator in charge will be present in the Laboratory every forenoon, and in the Infirmary every afternoon.



# BUSSEY INSTITUTION,

JAMAICA PLAIN.

A SCHOOL OF AGRICULTURE AND HORTICULTURE.

## INSTRUCTORS.

THOMAS MOTLEY, A.M., *Instructor in Farming.*  
DANIEL D. SLADE, M.D., *Professor of Applied Zoölogy.*  
ADRIEN JACQUINOT, A.B., *Instructor in French.*  
FRANCIS H. STORER, A.M., *Dean, and Professor of Agricultural Chemistry.*  
GEORGE L. GOODALE, A.M., *Assistant Professor of Botany.*  
WILLIAM H. PETTEE, A.M., *Instructor in Geography.*  
—— ———, *Professor of Horticulture.*  
JOHN TROWBRIDGE, S.D., *Assistant Professor of Physics.*  
WILLIAM G. FARLOW, M.D., *Assistant Professor of Botany.*  
CHARLES L. JACKSON, A.M., *Assistant Professor of Chemistry.*  
—— ———, *Instructor in Entomology.*  
GEORGE A. BARTLETT, *Instructor in German.*  
DAVID S. LEWIS, } *Assistants in the Laboratory of Agricultural Chemistry.*  
FRANK W. VERY, }

## STUDENTS.

NAME.	RESIDENCE.	ROOM.
Channing, Giovanni Eugene,	Boston,	8 Park Sq., Boston.
Flagg, Bernard Whitman, A.B.,	Cambridge,	20 Dunster St.
Halsted, Byron David, R.S. ( <i>Agricultural College of Michigan</i> ),	Lansing,	Jamaica Plain.
Higbee, Charles Henry,	Salem,	Salem.

The School of Agriculture and Horticulture, established in execution of the Trusts created by the will of Benjamin Bussey, gives thorough instruction in Agriculture, Useful and Ornamental Gardening, and Stock Raising. In order to give the student a sound basis for a thorough knowledge of these Arts, the School supplies instruction in Physical Geography, Meteorology, and the elements of Geology, in Chemistry and Physics, in the elements of Botany, Zoölogy, and Entomology, in Leveling and Road-building, and in French and German.

This School is intended for the following classes of persons :—

1. Young men who intend to become practical farmers, gardeners, florists, or landscape gardeners.
2. Young men who will naturally be called upon to manage large estates, — such as the sons of large farmers and of city men who own country-places.
3. Young men of character, good judgment, and native force, who have neither taste nor aptitude for literary studies, but, being fond of country life and observant of natural objects, would make, when thoroughly trained, good stewards or overseers of gentlemen's estates.
4. Teachers, or young men preparing to be teachers, who expect to be called upon to teach some of the subjects taught in this school.
5. Persons who wish to familiarize themselves with some special branch of agriculture, horticulture, botany, or applied zoölogy.

The regular course of study, to be pursued by candidates for a degree, fills three years. The instruction of the first year's course is given at the Lawrence Scientific School, in Cambridge, and students of the first year must live in or near Cambridge. The instruction of the second and third years' courses is given at the Bussey Institution, and students of the second and third years must live near the Institution, which is situated near the village of Jamaica Plain, about five miles south-west of the centre of Boston, and close to the Forest Hills station on the Boston and Providence Railroad.

Special students in Botany will be received at any time during the first half of the academic year; and in the summer vacation also, for laboratory work in Algæ, Fungi, or Vegetable Anatomy.

#### REQUISITIONS FOR ADMISSION.

Candidates for admission to the first year of the regular course of the School must be at least seventeen years of age, and must present testimonials of good moral character; they will be examined in Arithmetic, Algebra as far as quadratic equations, English Grammar, and Geography. Candidates for admission to the second year of the regular course must be at least eighteen years of age, and must present testimonials of good moral character; they will be examined upon the studies of the first year in addition to the above-mentioned subjects.

*Examinations for admission will be held on Thursday and Friday, July 1 and 2, and Thursday and Friday, September 30 and October 1, 1875, at Lawrence Hall, Cambridge, beginning at 8 A.M.*

Any person, who is not less than eighteen years old, may join the School, without examination, to pursue any special course or courses of instruction which he is qualified to pursue with advantage; but such special students will not be regarded as candidates for a degree.

## BOND OR DEPOSIT.

Every student, when admitted, if he be a candidate for a degree, must give a bond in the sum of two hundred dollars to pay all charges accruing under the laws and customs of the University. The bond must be executed by two bondsmen, who must be satisfactory to the Steward, and one of whom must be a citizen of Massachusetts. Instead of filing a bond, a student may pay his tuition-fee for the year in advance, and deposit such a sum of money, not exceeding fifty dollars, as may be deemed sufficient to secure the payment of other School dues.

Special students will pay the tuition-fees in advance at the Steward's office, in Cambridge, or to Prof. F. H. Storer, Dean, at the Bussey Institution.

## INSTRUCTION.

Instruction is given by lectures and recitations, and by practical exercises in the laboratory, the greenhouse, and the field. Examinations are held statedly, to test the student's proficiency.

## REGULAR FIRST YEAR'S COURSE (AT CAMBRIDGE).

*Physical Geography and Structural Geology*, ASST. PROF. PETTEE.  
*General Chemistry and Qualitative Analysis*, ASST. PROF. JACKSON.  
*The Elements of Physics*, ASST. PROF. TROWBRIDGE.  
*Levelling and Road-making*, ——— ———  
*The Elements of Botany*, ASST. PROF. GOODALE.  
*The Elements of Entomology*, ——— ———  
*French*, MR. JACQUINOT.  
*German*, MR. BARTLETT.

## SECOND YEAR'S COURSE (AT WEST ROXBURY).

*Theory and Practice of Farming* . . . . . MR. MOTLEY.

Preparation and care of manures and composts. Breeding and care of neat stock, with special reference to the dairy. Breeding of horses and swine. Preparation of the ground for root crops, hay, and grain. The sowing and planting of different seeds and roots for farm use. Field work with ploughs, harrows, and seed-sowers. Harvesting of hay and grain. Use of mowing machines, hay-tedders, horse-rakes, &c. Examination of agricultural implements. Farm accounts.

*Horticulture* . . . . . PROF. ———

Propagation of plants; the methods of practising it, and the principles on which they rest. Propagation by seed; by cuttings; by layers; by

budding, grafting, and inarching. Methods of obtaining new varieties of fruits, flowers, and vegetables. Horticultural glass-houses, their construction and management. The flower garden. The fruit garden. Nurseries and their management. Manual practice of horticultural operations.

*Agricultural Chemistry* . . . . . PROF. STORER.

Soil, air, and water, in their relations to the plant. The food of plants; manures, general and special. Chemical principles of tillage, irrigation, systems of rotation, and of special crops and farms.

*Applied Zoölogy* . . . . . PROF. SLADE.

The anatomy and physiology of domestic animals. Their proper management in health and disease. Epidemics,—their nature, progress, mode of introduction, and proper treatment.

*Botany* . . . . . ASST. PROF. FARLOW.

Vegetable anatomy, particularly the microscopic study of woods. Rudiments of cryptogamic botany. Fungi, especially those injurious to vegetation. Special investigations of the diseases of plants will be pursued; and, so far as possible, answers will be given to inquiries on this subject from any part of the country, provided they are accompanied with suitable material for examination.

*Entomology* . . . . . —————

Habits or economy, anatomy and transformations of insects; their embryonic development, and their relations to the surrounding world. Means of controlling or keeping in check the increase of injurious species. Systems of classifications. Collection and preservation of specimens.

*Quantitative Analysis* . . . . . PROF. STORER.

Laboratory practice. Methods of analyzing rocks, manures, plants, milk, &c., and of investigating problems in agricultural chemistry.

During the first year of the regular course the student is expected to pursue with equal diligence all the subjects prescribed for that year; but during the second and third years the student's course of study, particularly as regards the amount and direction of his manual practice, may be varied at the discretion of the instructors, in accordance with the student's aims and purposes.

## FEES AND EXPENSES.

The regular fee for the academic year is \$150; for half or any less fraction of a year, \$75; for any fraction of a year greater than one-half, the fee for the whole year is charged. The fees for special courses of instruction are as follows:—

On Farming . . . . .	\$10.00 for the year, or \$20.00 for the half-year.
On Horticulture . . . . .	40.00     "     "     "     "     "
On Agricultural Chemistry . . . . .	40.00     "     "     "     "     "
On Applied Zoölogy . . . . .	40.00     "     "     "     "     "
On Entomology . . . . .	20.00 for the last half of the year.

For Laboratory instruction in Botany, or in Quantitative Analysis (including the course on Agricultural Chemistry), \$150.00 for the year.

The tuition fees are freely remitted to poor and meritorious students.

The other expenses of a student for an academic year may be estimated as follows:—

Room . . . . .	from \$30.00 to \$100.00
Board for 88 weeks . . . . .	" 152.00     " 304.00
Text-books . . . . .	" 20.00     " 25.00
Fuel and Lights . . . . .	" 25.00     " 35.00
	<hr/>
	\$227.00     , \$464.00

The teachings of the School are amply illustrated by the rich scientific collections of the University, and by a botanic garden, a large farm, greenhouses, propagating-houses, and field experiments.

The Curtis collection of fungi and Assistant Professor Farlow's private cryptogamic collections are kept at the Bussey Institution, to facilitate the systematic study of fungi and algæ. These collections will be accessible to the public on application to Assistant Professor Farlow.

The object of the School is to promote and diffuse a thorough knowledge of Agriculture and Horticulture.

# THE MASTER'S AND DOCTORS' DEGREES.

## CANDIDATES FOR THE DEGREE OF A.M.

NAME.	SUBJECT.	RESIDENCE.
Beatley, James Augustus, A.B. 1873,	<i>Physics.</i>	G. 5.
Bettens, Thomas Simms, A.B. 1874,	<i>Mod. Languages.</i>	H. 21.
Brainerd, Erastus, A.B. 1874,	<i>English.</i>	D. 11.
Canavan, Michael Joseph, A.B. 1871,	<i>Mod. Languages.</i>	T. 27.
Clark, Henry Alden, A.B. 1874,	<i>History and English.</i>	
		11 Wadsworth House.
Foote, Arthur William, A.B. 1874.	<i>Music.</i>	Salem.
Ham, Charles Abner, A.B. 1873,	<i>Mathematics.</i>	S. 27.
Ledyard, Lewis Cass, A.B. 1872,	<i>Law.</i>	7 Wadsworth House.
Lincoln, Albert Lamb, A.B. 1872, LL.B.		
1874,	<i>Law.</i>	S. 21.
Lord, Eliot, A.B. 1873,	<i>History and Polit. Science.</i>	Annapolis, Md.
Loring, William Caleb, A.B. 1872, LL.B.		
1874,	<i>Law.</i>	C. 5.
Merwin, Henry Childs, A.B. 1874,	<i>English and Mod. Lang.</i>	G. 14.
Otis, Edward Osgood, A.B. 1871,	<i>Physics.</i>	Dolton's Block 16.
Sanger, William Cary, A.B. 1874,	<i>Hist. and Polit. Science.</i>	1 Garden St.
Stone, Charles Wellington, A.B. 1874,	<i>Mod. Lang. and Eng.</i>	Jamaica Plain.
Vaile, Frederick Ozni, A.B. 1874,	<i>History and English.</i>	
		11 Wadsworth House.
Wheeler, Henry Nathan, A.B. 1871,	<i>Mathematics.</i>	T. 7.
Wheeler, John Henry, A.B. 1871,	<i>Classics.</i>	C. 12.
Wigglesworth, George, A.B. 1874,	<i>Political Science.</i>	10 Oxford St.
Williams, Charles Herbert, A.B. 1871,		
M.D. 1874,	<i>Medicine.</i>	Boston.

## CANDIDATES FOR THE DEGREE OF PH.D.

Bartlett, Franklin, A.B. 1869,	<i>History.</i>	New York.
Buckingham, Lucius Henry, A.B. 1851,	<i>Philology.</i>	Boston.
Everett, William, A.B. 1859,	<i>Philology.</i>	Holmes House.
Fenollosa, Ernest Francisco, A.B. 1874,	<i>Philosophy.</i>	2 Holmes Pl.
Field, Alfred Withington, A.B. 1872,	<i>Physics.</i>	H'y 11.
Gooch, Frank Austin, A.B. 1872,	<i>Physics.</i>	2 Mt. Auburn St.

Grant, Robert, A.B. 1873,	<i>Philology.</i>	Boston.
Lodge, Henry Cabot, A.B. 1871,	<i>History.</i>	Boston.
Moore, Charles Sturtevant, A.B. 1873,	<i>Philosophy.</i>	42 North Av.
Murdoch, John, A.B. 1873,	<i>Natural History.</i>	G. 5.
Seward, Josiah Lafayette, A.B. 1868,		
D.B. 1874,	<i>History.</i>	D. 24.
Snow, Freeman, A.B. 1873,	<i>History.</i>	Annapolis, Md.
Turner, Samuel Epes, A.B. 1869,	<i>History.</i>	Baltimore, Md.
Wadsworth, Marshman Edward, A.M.		
1874,	<i>Natural History.</i>	44 Mt. Auburn St.
White, John Williams, A.B. ( <i>Ohio Wesleyan Univ.</i> ) 1868,	<i>Philology.</i>	T. 54.
Wood, Stuart, A.B. ( <i>Haverford Coll.</i> ) 1870,	<i>Political Science.</i>	Little's Block 8.
Young, Ernest, A.B. 1873,	<i>History.</i>	Little's Block 13.

## CANDIDATES FOR THE DEGREE OF S.D.

Faxon, Walter, A.B. 1871, S.B. 1872,	<i>Natural History.</i>	7 Sumner St.
Munroe, Charles Edward, S.B. 1871,	<i>Chemistry and Physics.</i>	Annapolis, Md.
Shaler, Nathaniel Southgate, S.B. 1862,	<i>Geol. and Zoology.</i>	18 Bow St.

## HOLDERS OF FELLOWSHIPS.

*Harris Fellowship.*

John Murdoch, A.B. 1873.

*Parker Fellowships.*

Ernest Francisco Fenollosa, A.B. 1874.

Edward Stevens Sheldon, A.B. 1872.

William Edward Story, A.B. 1871.

*Kirkland Fellowship.*

Allen Walton Gould, A.B. 1872.

*Graduates' Scholarship.*

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## OTHER RESIDENT GRADUATES.

Abbot, William Fitzhale, A.B.,	D. 26.
Bliss, Edward Penniman, A.M.,	329 Broadway.
Brearley, Samuel, A.B.,	2 Garden St.
Hall, William Stickney, A.B.,	6 Follen St.
Mann, Benjamin Pickman, A.B.,	19 Follen St.
Mann, George Combe, A.B.	19 Follen St.

Nason, Rufus William, A.B.,	Church St.
Scudder, Samuel Hubbard, A.M., S.B.,	156 Brattle St.
Senter, Joseph Herbert, A.B.,	Portland, Me.
Soley, James Russell, A.B.,	Putnam Av.

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CANDIDATES ADMITTED TO DEGREES AT COMMENCEMENT, 1874.

*A. M.*

James Olney Averill, A.B. (*Amherst College*) 1870.  
 Edward Penniman Bliss, A.B. 1873.  
 Eugene Bigelow Hagar, A.B. 1871, LL.B. 1873.  
 Henry Parkman, A.B. 1870, LL.B. 1873.  
 Melville Howard Swett, A.B. 1873.  
 John Freeman Tufts, A.B. 1872.  
 William Warren Vaughan, A.B. 1870, LL.B. 1873.  
 Marshman Edward Wadsworth, A.B. (*Bowdoin College*) 1869.

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THE DEGREES OF MASTER OF ARTS, DOCTOR OF PHILOSOPHY, AND DOCTOR OF SCIENCE.

These Degrees are conferred on candidates recommended by the Academic Council, — a body composed of the President, Professors, Assistant Professors, and Adjunct Professors of the University. They are conferred upon examination only, and in conformity with the following rules: —

The Degrees of Master of Arts and Doctor of Philosophy are open to Bachelors of Arts of Harvard College, and to Bachelors of Arts of other Colleges who shall have satisfied the College Faculty, by examination, that the course of study for which they received the Bachelor's Degree is equivalent to that for which the Bachelor's Degree is given in Harvard College, or shall have passed such additional examinations as that Faculty may prescribe.

The Degree of Doctor of Science is open to Bachelors of Science of Harvard University, and to Bachelors of Science and Bachelors of Philosophy of other institutions who shall have satisfied the Faculty of the Lawrence Scientific School, by examination, that the course of study for which they received the Bachelor's Degree is equivalent to that for which the Degree is given in Harvard University, or shall have passed such additional examinations as that Faculty may prescribe.

The Academic Council will recommend for the Degree of Doctor of Philosophy candidates otherwise properly qualified, who, after taking



the Bachelor's Degree, shall pursue at Harvard University for two years a course of liberal study, approved by the Council, in any one of the following departments, — Philology, Philosophy, History, Political Science, Mathematics, Physics, or Natural History, — shall pass a thorough examination on that course, and shall present a satisfactory thesis.

The Academic Council will recommend for the Degree of Doctor of Science candidates otherwise properly qualified, who, after taking their Bachelor's Degree, shall reside at least two years at the University, and pursue during three years a course of scientific study, embracing at least two subjects, and approved by the Council, and shall pass a thorough examination upon that course, showing in one of the subjects special attainments, and shall also make some contribution to science, or some special scientific investigation; provided, however, that a course of study of two years only shall suffice for candidates who are both Bachelors of Arts and Bachelors of Science of Harvard University.

The Academic Council will recommend for the Degree of Master of Arts candidates otherwise properly qualified, who, after taking the Bachelor's Degree, shall pursue for at least one year at the University a course of liberal study approved by the Council, and shall pass a thorough examination on that course.

The Academic Council will also recommend for the Degree of Master of Arts candidates otherwise properly qualified, who shall pursue at the University for at least one year, after taking the Degree of Bachelor of Laws, Bachelor of Divinity, or Doctor of Medicine in Harvard University, a course of study in Law, Theology, or Medicine approved by the Council, and shall pass a thorough examination on that course.

In special cases the Academic Council is authorized to remit the requisition of residence at the University to Bachelors of Arts or Science of Harvard University.

Any one who wishes to be a candidate for either of these Degrees must apply in writing to Professor J. M. Peirce, *Secretary of the Academic Council*, stating explicitly in his application his present qualifications, and the course of study which he intends to offer, naming also the year in which he desires to be examined, and the period of his past or proposed residence at the University.

The meetings of the Academic Council are held on the third Wednesdays of October, December, February, and April, and the Thursday before Commencement. Applications can only be considered at these meetings, and, in order to be considered, must be in the hands of the Secretary *one week before the date of the meeting*. The examinations will be held at times appointed by the Council, near the end of the academic year. Candidates are liable to be called on for examination as early as the second Monday in May.

## INSTRUCTION OPEN TO GRADUATES.

All the elective courses of study in Harvard College are open to Bachelors of Arts of any College, on the payment of certain fees. The lists of elective courses for each academic year are issued in April of the preceding academic year, and may be had on application to Mr. J. W. Harris, *Secretary*. The list for the current year is given on pages 48-62.

Advanced Students will be received into the botanical laboratory in charge of Assistant Professor Goodale, the laboratory of Assistant Professor Farlow, the chemical laboratory in charge of Professor Cooke, the physical laboratory in charge of Professor Gibbs, the physical laboratory in charge of Assistant Professor Trowbridge, the physiological laboratory (at Boston) in charge of Assistant Professor Bowditch, and into the zoölogical and geological laboratories of the Museum of Comparative Zoölogy in charge of Professors McCrady and Shaler. At the Museum, the laboratory of Professor Hagen and the laboratories of the Assistants are also open to properly qualified Students.

## FEES AND BONDS.

The fees to be paid by Bachelors of Arts or Science who receive instruction as candidates for the Degree of Master of Arts, Doctor of Philosophy, or Doctor of Science, or who attend lectures or recitations without being members of either professional school, are as follows :—

For not more than three hours of instruction a week . . .	\$50.00 a year.
For more than three, but not more than six hours of instruction a week . . . . .	\$90.00 a year.
For more than six hours of instruction a week . . . .	\$120.00 a year.
For a year's instruction in any of the laboratories or in the Museum of Comparative Zoölogy . . . . .	\$150.00

The fees to be paid for examination are as follows :—

For the examination for the Degree of Master of Arts . . . .	\$30.00
For the examination for the Degree of Doctor of Philosophy . .	\$60.00
For the examination for the Degree of Doctor of Science . . .	\$60.00

There is no additional charge for the right to use the Library. The fees for instruction, but not those for examination, will be remitted to meritorious students who need such help.

Graduates of the University, or of other Collegiate institutions, desirous of pursuing their studies at Cambridge without any guidance, may enjoy the use of the Library on the payment of five dollars a year; but residence on these terms will not be accepted as residence qualifying for

the Degree of Master of Arts, Doctor of Philosophy, or Doctor of Science.

All Bachelors of Arts, Science, or Philosophy, studying at the University, must give bonds in the sum of \$200, signed by two bondsmen, one of whom must be a citizen of Massachusetts, for the payment of all dues to the University; but, instead of filling a bond, any Student who prefers so to do may pay his fees in advance, and deposit with the Steward such a sum of money as may be deemed sufficient to secure payment of all other dues to the University.

#### REGISTRATION. — ROOMS.

No person can be admitted to instruction in any department of the University of which he is not a member, unless he present to the instructor a certificate of registration, signed by the Dean of that department, and naming the course or courses he purposes to attend.

Graduates of Harvard College may occupy rooms in College buildings, if they wish. Seniors may re-engage their rooms for the ensuing year, or may apply for other rooms in the allotment of April 15. Graduates whose residence at the University has been interrupted must apply for rooms on the list to be ready for delivery May 1; but Graduates engaging rooms become responsible for the whole year's rent, whether they occupy the rooms or not, and they must file the same bond as Undergraduates, or pay their rent in advance.

#### FELLOWSHIPS.

THE HARRIS FELLOWSHIP has an endowment of ten thousand dollars, the yearly income of which is to be applied under the following conditions established by the founder: —

“That this income be given to some Graduate of acknowledged excellence in one or more departments of literature or science (but not necessarily of the highest College rank) for one or more years; that the recipient satisfy the Corporation of his need of such aid, and his purpose to make the most of it; that residence at Cambridge be required unless excused for substantial reasons, and that marriage be a disqualification; that studies for the professions of law, theology, or medicine be excluded from the studies of the recipient, and that the Corporation be authorized to make such other restrictions and conditions as in its judgment will best secure from the recipient his entire devotion to accurate scholarship or the higher branches of science.”

THE GRADUATES' SCHOLARSHIP has an endowment of twenty thousand dollars, the income of which is to be used in accordance with the following directions, given by the founder: —

“ . . . . For the encouragement and attainment of a higher, broader, and more thorough scholarship than is required or expected of Undergraduates, in all sound literature and learning, except science strictly so called. . . . .

“ 1. I direct that the Corporation, from time to time, shall select from the Senior Class the member who, from his natural gifts, attainments, and general character, intellectual and moral, they, after consultation with the Faculty of the College, shall deem best fitted to attain the object contemplated by this donation, and shall offer to him from said income and profits an annual grant of money upon the following conditions; viz. —

“ That he shall reside at Cambridge, and shall faithfully devote his time and thoughts to the pursuit of such branches and courses of study as he, with the approbation of the Corporation, may select. That whilst a recipient of this grant he shall engage in no studies designed to prepare him for a special profession, nor in any other business or occupation except that of a Proctor of the College, — or an occasional examiner of some of the classes, at the request of the Corporation. That, from time to time, he shall be subject to be called upon to give such evidence of his fidelity and proficiency as the Corporation may require, and especially to write essays and dissertations upon such subjects, within the circle of his studies, as they shall designate, and these, when completed, shall be at their disposal.

“ 2. I direct that the grant shall be from year to year, and that the amount thereof, in the first instance, shall not exceed the sum of eight hundred dollars. . . . .”

**PARKER FELLOWSHIPS.** — Three Fellowships of the annual value of \$1,000 each have been created from the income of the bequest of John Parker, Jr. These Fellowships may be held by Graduates of Harvard College, or of any other department of the University, for a term not exceeding three years in any case. Appointments to these Fellowships will be made annually by the President and Fellows of Harvard College, ordinarily upon recommendation of the Academic Council, at or about Commencement in each year; but the appointments so made must receive, under the provisions of the founder's will, the approval of the Governor and Chief Justice of the Commonwealth of Massachusetts and the President of the American Academy of Arts and Sciences. The holder of a Parker Fellowship must devote himself to some special course of study approved by the Academic Council; he is restricted during his tenure of the Fellowship from pursuing the usual studies preparatory to a profession (but not necessarily from higher professional studies), and from occupation in teaching or active business; he is liable to be called upon from time to time to give satisfactory evidence of his fidelity and

proficiency; and he is liable to lose his appointment, by vote of the President and Fellows, whenever the evidence of his fidelity and proficiency shall be unsatisfactory to the Academic Council, or whenever he may become for any reason unfit, in the opinion of the President and Fellows, to hold a Fellowship.

The object of Mr. Parker's bequest is to provide the most thorough education possible for persons who possess uncommon powers in any department of knowledge, or who give promise of developing such powers, but who have not at command the means of paying for a prolonged and costly training. Incumbents of these Fellowships may study abroad, if they prefer.

Applications for these Fellowships must be sent to Professor J. M. Peirce, *Secretary of the Academic Council*, on or before the first Wednesday in March. An application made by a person who is for the first time a candidate should specify his qualifications and the course of study to which he wishes to devote himself. An application by an incumbent for the renewal of the appointment should be a report upon the work which he has already done while a Fellow, and a sketch of that which he proposes to do.

**THE JOHN THORNTON KIRKLAND FELLOWSHIP.** — This Fellowship, having an endowment of about eleven thousand dollars, has been established with the gift of George Bancroft, LL.D. The incumbent of this Fellowship must, as a rule, have resided at least three years at the University as a member either of the College or of one of the Schools. The Fellowship may be held for three years, and no longer; but the appointment must be renewed from year to year, on evidence that the incumbent is fulfilling the purpose of the endowment. It may be awarded to "any young person likely to distinguish himself in either of the learned professions, or in any branch of Science, or in Architecture, Sculpture, Painting, Music, or Letters." The appointment to this Fellowship is made annually by the President and Fellows, on recommendation of the Academic Council, at or about Commencement in each year. The incumbent may study abroad, if he prefer.

# MUSEUM OF COMPARATIVE ZOÖLOGY

## AT HARVARD COLLEGE.

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### TRUSTEES.

THE Governor and Lieutenant-Governor of Massachusetts, the President of the Senate, the Speaker of the House of Representatives, the Secretary of the Board of Education, the Chief Justice of the Highest Judicial Court, *ex officio*;

THEODORE LYMAN and ALEXANDER AGASSIZ,

Elected by a concurrent vote of the General Court;

NATHANIEL THAYER,

SAMUEL ELIOT,

SAMUEL HOOPER,

MARTIN BRIMMER,

JAMES LAWRENCE,

QUINCY A. SHAW,

L. F. DE POURTALES,

Elected by the Board of Trustees.

### FACULTY.

CHARLES W. ELIOT, LL.D., *President.*

ALEXANDER AGASSIZ, A.B., S.B., *Curator.*

JOHN B. S. JACKSON, M.D.

OLIVER WENDELL HOLMES, M.D.

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### OFFICERS.

ALEXANDER AGASSIZ, A.B., S.B., *Curator.*

THEODORE LYMAN, A.B., S.B., *Assistant in Zoölogy.*

JOHN GOULD ANTHONY, *Assistant in Conchology.*

NATHANIEL S. SHALER, S.B., *Assistant in Paleontology.*

HERMANN A. HAGEN, M.D., PH. D., *Assistant in Entomology.*

L. F. DE POURTALES, *Keeper.*

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CHARLES E. HAMLIN, A.M., *Assistant in Conchology.*

JOEL ASAPH ALLEN, *Assistant in Ornithology.*

WALTER FAXON, A.B., S.B., *Assistant in Zoölogical Laboratory.*

This institution was founded in 1859. It is under the direction of the Faculty, while the property is held by the Trustees. The Curator is charged with the direction of the scientific and educational interests of the Museum. The relations of the Museum to the public are determined by the Museum Committee of the Trustees. The Curator and the Assistants are appointed by the Faculty. The collections, so far as arranged in the part of the building already erected, are open to visitors every day except Sundays.

The courses of instruction in Natural History, numbered 4, 5, 6, and 7 (see p. 61), are given at the Museum, in the Zoölogical and Geological Laboratories, under the direction of Professors McCrady and Shaler. Professors Shaler, Hagen, and McCrady, and Messrs. Pourtalès, Hamlin, and Allen, receive special students in their respective departments at the Museum.

PEABODY MUSEUM  
OF  
AMERICAN ARCHÆOLOGY AND ETHNOLOGY.

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TRUSTEES.

ROBERT CHARLES WINTHROP, LL.D., *Chairman.*  
CHARLES FRANCIS ADAMS, LL.D.  
STEPHEN SALISBURY, A.M., *Treasurer.*  
ASA GRAY, LL.D., *Curator pro tem.*  
GEORGE PEABODY RUSSELL, LL.B.  
HENRY WHEATLAND, M.D., *Secretary.*  
THOMAS TRACY BOUVÉ, A.M.

In the original Instrument of Trust the Founder has assigned to the Trustees three distinct duties : —

1. The forming and preserving of collections.
2. The nomination of a Professor, who shall have charge of the collections, and deliver lectures on subjects connected with them, the said Professor being appointed by the President and Fellows of Harvard College.
3. The erection of a building for a Museum.

The building cannot be undertaken till the \$60,000 devoted to it shall be increased to at least \$100,000. No Professor having been appointed, the income from the fund for his support has thus far been appropriated, in accordance with the directions of the Founder, to the care and increase of the collections.

Large collections pertaining to the Archæology and Ethnology of the aboriginal races of America, as well as of the Old World, have been made, and are arranged for exhibition in the room over the Anatomical Museum in Boylston Hall. The collections are open to visitors every Wednesday afternoon, in term time, from three to five o'clock.



# EPISCOPAL THEOLOGICAL SCHOOL.

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## OFFICERS.

### BOARD OF TRUSTEES.

EDWARD S. RAND, *President.*

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JOHN P. PUTNAM, *Secretary*,              JAMES S. AMORY.

### BOARD OF VISITORS.

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## FACULTY.

REV. JOHN S. STONE, D.D., *Dean, and Professor of Systematic Divinity.*

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Criticism and Interpretation.*

REV. A. V. G. ALLEN, A.B., *Professor of Ecclesiastical History.*

## STUDENTS.

### Senior Class.

Hooper, William Robert, A.B.,  
Nicholson, Charles McIlvaine, A.B.,  
Young, Joseph Hudson,

*Worcester.*  
*Cambridge.*  
*Boston.*

**Middle Class.**

McConkey, John Douglas, A.B. ( <i>St. Stephen's College,</i> <i>Annandale</i> ),	<i>New Britain, Conn.</i>
Mackay, Thomas Jones,	<i>Worcester.</i>
Tillotson, Cyrus Olney, A.B. ( <i>St. Stephen's College,</i> <i>Annandale</i> ),	<i>San Francisco, Cal.</i>

**Junior Class.**

Baker, Walter, A.B.,	<i>Dorchester.</i>
Carver, Alexander Burton,	<i>Philadelphia, Pa.</i>
Gould, Edwin Walter, A.B. ( <i>Brown University</i> ),	<i>Boston Highlands.</i>
Hill, Howard Fremont, A.M. ( <i>Dartmouth College</i> ),	<i>Concord, N. H.</i>
Osgood, George Endicott,	<i>Waltham.</i>
Rose, John Taylor,	<i>Lafayette, Ind.</i>

**PARTIAL COURSE.**

Morrill, George Washington,	<i>Cambridge.</i>
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**EXPENSES.**

Board and washing in the establishment are the only items of expense for which provision will be rendered necessary by residence during term-time; tuition, room-rent, fuel and lights, and principal furniture being free. The use of text-books also will be allowed to such as are unable to purchase them; while from Church-Education Societies students who present the required testimonials will receive adequate aid.

**TERM TIME.**

The annual term opens on the third Wednesday in September, and closes on the last Wednesday in June.

**VACATION AND RECESSES.**

From the last Wednesday in June to the third Wednesday in September is *Vacation*.

From the 24th of December to the 1st of January, inclusive, the *Christmas Recess*; and from the Saturday next before Palm Sunday to Easter Tuesday, inclusive, the *Easter Recess*.

On Ash Wednesday, likewise, and on days of special thanksgiving and fasting, appointed by the civil or by the ecclesiastical authority, all lectures and recitations are omitted.

## LIBRARIES.

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The principal Library belonging to the University is at Cambridge, and is known as the College Library. This Library, which is kept in Gore Hall, is for the use of the whole University. Books may be taken out by all students of the University who have given bonds, and by all graduates of the University on giving bonds and paying an annual fee of \$5. The Library may be consulted by all persons, whether connected with the University or not. In Term time (excepting the days of Thanksgiving, Christmas, New Year, Fast Day, and Class Day), it is open on every week-day from 9 till 5 o'clock, or till sunset when that is before 5. In the vacation it is open every week-day from 9 till 2 o'clock; but books are not given out till after the annual examination, which is commonly made within about a fortnight after Commencement.

The Libraries connected with the different Schools of the University are for the especial use of the Schools, and placed in the buildings where the Schools are kept.

The total number of books in the Libraries of the University is, in round numbers, as follows:—

College Library . . . . .	148,000
Library at the Botanical Garden . . . . .	4,000
Library at the Divinity School . . . . .	16,000
Law Library in Dane Hall . . . . .	15,000
Libraries in the Lawrence Scientific School . . . . .	3,000
Library at the Medical School . . . . .	2,000
Library at the Museum of Comparative Zoölogy . . . . .	12,000
Phillips Library at the Observatory . . . . .	3,000
	<hr/>
	208,000

## SUMMER COURSES OF INSTRUCTION

IN

## CHEMISTRY AND IN BOTANY.



### CHEMISTRY.

The course of instruction in Chemistry, for the summer of 1874, was given at the laboratory in Boylston Hall. Instruction was given four hours each day, five days in the week, from July 6 to August 29. The course was attended by fifteen persons, three of whom were women. The subjects taught were Elementary Experimental Chemistry, Qualitative Analysis, Quantitative Analysis, Blowpipe Analysis, Crystallography, Mineralogy, and the Preparation of Chemical Products. There was no class system, and the instruction was intended to meet the varied wants and different degrees of attainment of the individual pupils, most of whom were teachers.

A similar course is contemplated for 1875, to begin July 8, and continue six weeks. Applications for places in the Chemical Laboratory — limited to twenty — should be made to the Director, Professor Josiah P. Cooke, Jr., Cambridge. Fee for course, *including* use of apparatus and chemicals, but not breakage, \$20.

### BOTANY.

The course of instruction in Botany, for the summer of 1874, commencing July 6th, was given at the Botanic Garden, Cambridge.

The instruction in Phænogamic Botany was conducted under the direction of Assistant Professor Goodale; that in Cryptogamic Botany by Assistant Professor Farlow. The lectures were followed daily by practical dissections and demonstrations in the Laboratory. All requisite appliances and abundant material for examination were furnished every student.

Twenty-one persons — nearly all female teachers in our higher schools — were in attendance upon the first course; nine, exclusive of those present at the lectures, pursued the second course.

The corresponding courses for 1875 will commence on July 8th, and continue six weeks.

The course in Phænogamic Botany will be given in the Botanical Laboratory, Cambridge, and will be conducted by Assistant Professor Goodale. Particular attention will be given to Morphology and Physiology. The greenhouses and garden of the University afford ample facilities for illustrating the subjects of Structural and Systematic Botany.

Course II., in Cryptogamic Botany, by Assistant Professor Farlow, will be given at some locality upon the seashore, not at present determined. Instruction will be given in Algæ and Fungi, in the Laboratory, and by the aid of microscopes provided by the College. Applications for places in the Laboratory should be made to Dr. W. G. Farlow, Bussey Institution, Jamaica Plain, Mass., on or before June 1st.

Fee for each course, \$15.

For further information, or for an outline sketch of either course, application may be made to the respective instructors.

# EXAMINATIONS FOR WOMEN.

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These examinations, which were held for the first time in 1874, are of two grades: I. A general or preliminary examination for young women who are not less than seventeen years old; II. An advanced examination for young women who have passed the preliminary examination, and are not less than eighteen years old.

## I. PRELIMINARY EXAMINATION.

The preliminary examination will embrace the following subjects: English, French, Physical Geography, either Elementary Botany or Elementary Physics, Arithmetic, Algebra through quadratic equations, Plane Geometry, History, and any one of the three languages, German, Latin, and Greek.

## II. ADVANCED EXAMINATION.

The advanced examination will be divided into five sections, in one or more of which the candidate may present herself. These sections are as follows:—

1. *Languages.* Candidates may offer any two of the following languages: English, French, German, Italian, Latin, Greek.

2. *Natural Science.* Candidates may offer any two of the following subjects: Chemistry, Physics, Botany, Mineralogy, Geology.

3. *Mathematics.* Candidates must present Solid Geometry, Algebra, Logarithms, and Plane Trigonometry, and one of the three following subjects: Analytic Geometry, Mechanics, Spherical Trigonometry and Astronomy.

4. *History.* In 1875, candidates may offer either of the two following subjects: The History of Continental Europe during the period of the Reformation, 1517–1648; English and American History from 1688 to the end of the eighteenth century.

5. *Philosophy.* Candidates may offer any three of the following subjects: Mental Philosophy, Moral Philosophy, Logic, Rhetoric, Political Economy.

## FORM OF CERTIFICATE TO BE GIVEN BY THE UNIVERSITY.

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### HARVARD UNIVERSITY.

#### PRELIMINARY EXAMINATIONS FOR WOMEN.

A — B — has passed (passed with distinction) (passed with the highest distinction) the preliminary examination, held at — on the — of —, 1875, under the direction of the Faculty of Harvard College, and is entitled to proceed to the advanced examination.

— —  
*President.*

CAMBRIDGE, June 30, 1875.

### HARVARD UNIVERSITY.

#### ADVANCED EXAMINATION FOR WOMEN.

A — B —, having duly passed the preliminary examination on the — of —, 1874, has been admitted to the advanced examination in the section (sections) of —, and has passed (passed with distinction) (passed with the highest distinction) the prescribed examinations in —, held at —, under the direction of the Faculty of Harvard College, on the — of —, 1875.

— —  
*President.*

CAMBRIDGE, June 30, 1875.

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The Woman's Education Association will take charge of the examinations in Boston.

Notice of intention to be candidates must be sent to the Secretary of the Association before April 1, 1875.

Candidates for the Preliminary Examination must specify which of the elective studies (German, Latin, or Greek) they will take. Candidates for the Advanced Examination must specify which section and which subjects they elect.

Exact notice of the place of the examination in Boston, and also of the time (day and hour), will be sent to all candidates on April 15, 1875.

The Preliminary Examination will last from seven to ten days, covering parts of two weeks. Less time will be required for the Advanced Examination, according to the number of subjects chosen.

The fee for the Preliminary Examination, including certificate, will be *fifteen dollars*.

The fee for the Advanced Examination will be *ten dollars*.

The Association will provide board and lodging at moderate cost for those who need such accommodation.

Young women in narrow circumstances will be aided by the Association in meeting the cost of these examinations. Applicants for such aid should address Mrs. Charles G. Loring, 1 Mount Vernon Place, Boston, stating their circumstances fully, the amount of help which they need, the kind of assistance which they would prefer, — whether a remission of fees, a loan, or gratuitous board and lodging during the examination, — and enclosing certificates of scholarship and character from their teachers.

If an applicant is under twenty-one years of age, her application must be accompanied by the written approval of her parent or guardian.

A pamphlet has been printed containing full lists of books and specimen examination-papers. Copies will be forwarded to any address upon the receipt of twenty-five cents. For the papers actually used at the examination in 1874, see pages 294–311.

Any further information which may be desired will be gladly furnished by the Secretary of the Committee of the Woman's Education Association, Mrs. Charles G. Loring, 1 Mount Vernon Place, Boston, Mass.

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At the Preliminary Examination in 1874, certificates were given to the following candidates:—

Helen Jackson Cabot . . . . .	<i>Boston.</i>
Eugenie Homer . . . . .	<i>Roxbury.</i>
Susan Mitchell Munroe . . . . .	<i>Cambridge.</i>
Harriet Josephine Williams . . . . .	<i>Somerville.</i>



# SUMMARY.

## COLLEGE STUDENTS.

Senior Class . . . . .	152	
Junior Class . . . . .	159	
Sophomore Class . . . . .	208	
Freshman Class . . . . .	197	
		<hr/> 716

## DIVINITY STUDENTS.

Senior Class . . . . .	8	
Middle Class . . . . .	6	
Junior Class . . . . .	7	
Special Students . . . . .	4	
Resident Graduate . . . . .	1	
		<hr/> 20

## LAW STUDENTS.

Resident Bachelors of Laws . . . . .	8	
Second Year's Students . . . . .	46	
First Year's Students . . . . .	90	
		<hr/> 139

SCIENTIFIC STUDENTS . . . . .	29
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## MEDICAL STUDENTS.

Doctors of Medicine . . . . .	6	
Third Year's Students . . . . .	29	
Second Year's Students . . . . .	51	
First Year's Students . . . . .	106	
		<hr/> 192

DENTAL STUDENTS . . . . .	88
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BUSSEY INSTITUTION . . . . .	4
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CANDIDATES FOR HIGHER DEGREES . . . . .	40
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HOLDERS OF FELLOWSHIPS . . . . .	5
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OTHER RESIDENT GRADUATES . . . . .	10
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## EPISCOPAL THEOLOGICAL STUDENTS.

Senior Class . . . . .	8	
Middle Class . . . . .	8	
Junior Class . . . . .	6	
Partial Course . . . . .	1	
		<hr/> 18

1206

Deduct for names inserted more than once . . . . .	10
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Total . . . . .	<hr/> 1196
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# EXAMINATION PAPERS.

7\*

THE FOLLOWING COLLECTION OF UNIVERSITY EXAMINATION PAPERS  
INCLUDES : —

- (1) *The Papers for Admission to Harvard College, June, 1874.*
- (2) *The Courses of Instruction in the College, and a large portion of the Final Examination Papers for the year 1873-74. The examinations were held in June, and the time allowed was three hours, except where otherwise indicated.*
- (3) *Examination Papers given in the Divinity School during the year 1873-74.*
- (4) *The Examination Papers given in the Law School, June, 1874.*
- (5) *Some of the Papers for admission to the Lawrence Scientific School, June, 1874.*
- (6) *The Examination Papers given in the Medical School, June, 1874.*
- (7) *The Examination Papers given at the Preliminary Examination for Women, June, 1874.*

*The College Examination Papers are arranged under the following heads : I. The Classics ; II. Modern Languages ; III. Philosophy ; IV. History ; V. Mathematics ; VI. Physics (including Chemistry) ; VII. Natural History ; VIII. Music.*

*The College Examinations held during the year by authority of the Faculty are either Special or Final. Under Special Examinations are included all examinations held at various times on portions of the year's work in the several courses of instruction. Final Examinations are those which are held in each study at the close of the year's work upon that study ; they cover the entire ground passed over in the study during the year. The Final Examinations are held at the end of the academic year in June, except in a few cases in which the course of study for the year is completed at the end of the first half-year in February.*

*The Papers set for Second-Year Honors in the Classics and in Mathematics, and for Final Honors in the Classics, will be found under those heads respectively. The Examinations for Final Honors, except in the Classics and in Mathematics, are oral, and are conducted by committees consisting in each case of the instructors of the Department.*

# EXAMINATION PAPERS

## FOR ADMISSION TO HARVARD COLLEGE.

June, 1874.

### GREEK GRAMMAR.

All Greek words must be written with their accents.

Candidates for *advanced standing* will omit questions 1, 3, and 5, and answer 11, 12, 13, and 14.

1\*. Decline *πολίτης*, *ἄνθρωπος*, and *ἀληθής* in the *singular*; *θής*, *ἀνήρ*, and *λύων* in the *plural*.

2. Decline *ναῦς*, *μείων*, *σύ*, *ὅς*, and *τίς* (interrogative) throughout.

3.\* Compare *σοφός*, *φίλος*, *μέγας*, and *ράδιος*.

4. Inflect the present optative and imperfect indicative of *δράω*; the imperfect of *δείκνυμι*; and the present indicative of *εἰμί* and *εἶμι*, with the meaning of each.

5.\* Give the principal parts of *τυγχάνω*, *θνήσκω*, *δράω*, *λείπω*, and *ἔημι*.

6. Translate *οἶδα τοῦτον γράφοντα* and *οἶδα τοῦτο γράφειν*. Translate *ὁ αὐτὸς ἀποπέμπεται τὴν κεφαλὴν* and explain the accusative.

7. Translate *οἶκος δ' αὐτὸς, εἰ φθογγὴν λάβοι, σαφέστατ' ἂν λέξειεν*, and explain the optatives.

8. Explain the subjunctive in *ἐφοβούμην μὴ τοῦτο γένηται*. Could it be changed to the optative?

9. Explain the optative in *εἶπεν ὅτι γράφοι*. Could you have any other mood than the optative in this case?

10. What is an iambus? a spondee? an anapæst? What is a dactylic hexameter, and what substitutions are allowed in it?

11. Translate *τί μ' οὐκ ἔκτεινας εὐθὺς ἵνα μήποτε εἶδον τὸ φῶς* and explain *ἵνα εἶδον*.

12. Translate *εἰ αὐτοὺς ἴδοιεν ἂν ἔφυγον*. What is the construction of *ἴδοιεν*? of *ἂν*?

13. How would you express in Greek: *Would that Cyrus were alive! He said that he would do it, He said that he would have done it, He said that he did it?*

14. What is an iambic trimeter of tragedy, and what substitutions are allowed in it?

## GREEK COMPOSITION.

Translate into Greek :—

When these ten thousand Greeks had come in their march to the great river Euphrates, they found a barbarian soldier who told them that the great king with all his army was only two stages [days' march] distant, and that if they should go forward during all that night and the following (ἐπιέναι) day, they would see the king's forces before the time for supper came. When the generals heard this, they determined [it seemed good to them] not to remain where they were, but to cross (διαβαίνειν) the river and send Xenophon with a hundred hoplites so that they might know whether the man had spoken the truth.

## GREEK PROSE.

Those offering Greek Reader, take 2, 4, 5. Those offering Anabasis, four books, and 7th book of Herodotus, take 1, 2, 5. Those offering the whole of Anabasis, take 1, 2, 3.

1. (Anab. II. v. 10, and part of 11). Εἰ δὲ δὴ καὶ μανέντες σε κατακτείναιμεν, ἄλλο τι ἂν ἢ τὸν εὐεργέτην κατακτείναντες πρὸς βασιλεία τὸν μέγιστον ἔφεδρον ἀγωνιζοίμεθα; ὅσων δὲ δὴ καὶ οἶων ἂν ἐλπίδων ἐμαυτὸν στερήσασαι, εἰ σέ τι κακὸν ἐπιχειρήσασαι ποιεῖν, ταῦτα λέξω. ἐγὼ γὰρ Κύρον ἐπεθύμησά μοι φίλον γενέσθαι, νομίζων τῶν τότε ἱκανώτατον εἶναι εὖ ποιεῖν ὃν βούλοιο. From what and where is μανέντες?

2. (Anab. IV. i. 23, 24). Καὶ εὐθύς ἀγαγόντες τοὺς ἀνθρώπους ἤλεγον διαλαβόντες εἴ τινα εἶδειν ἄλλην ὁδὸν ἢ τὴν φανεράν. ὁ μὲν οὖν ἕτερος οὐκ ἔφη, μάλα πολλῶν φύβων προσαγομένων· ἐπεὶ δὲ οὐδὲν ὠφέλιμον ἔλεγεν, ὀρώντος τοῦ ἑτέρου κατεσφάγη. ὁ δὲ λοιπὸς ἔλεξεν ὅτι οὗτος μὲν οὐ φαίη διὰ ταῦτα εἶδέναι, ὅτι αὐτῷ ἐτύγχανε θυγάτηρ ἐκεί παρ' ἀνδρὶ ἐκδεδομένη· αὐτὸς δ' ἔφη ἡγήσεσθαι δυνατὴν καὶ ὑποζυγίοις πορεύεσθαι ὁδόν. Explain mood of εἶδειν.

3. (Anab. VI. iv. 20, 21). Καὶ πάλιν τῇ ὑστεραίᾳ ἐθύετο, καὶ σχεδὸν τι πᾶσα ἡ στρατιὰ διὰ τὸ μέλειν ἅπασιν ἐκυκλοῦντο περὶ τὰ ἱερά· τὰ δὲ θύματα ἐπελελοίπει. οἱ δὲ στρατηγοὶ ἐξήγον μὲν οὐ, συνεκάλεσαν δέ. εἶπεν οὖν Ξενοφών, ἴσως οἱ πολέμοι συνελεγμένοι εἰσὶ καὶ ἀνάγκη μάχεσθαι· εἰ οὖν καταλιπόντες τὰ σκευὴ ἐν τῷ ἐρυνμῷ χωρίῳ ὥς εἰς μάχην παρ-εσκευασμένοι ἵομεν, ἴσως ἂν τὰ ἱερά προχωροῖη ἡμῖν.

4. (Phaedo; Reader, p. 109, § 24). Καὶ ὁ Κρίτων ἀκούσας ἔνευσεν τῷ παιδί πλησίον ἐστῶτι, καὶ ὁ παῖς ἐξελθὼν, καὶ συχρὸν χρόνον διατρίψας, ἤκεν ἄγων τὸν μέλλοντα διδόναι τὸ φάρμακον, ἐν κύλικι φέροντα τετρυμμένον· ἰδὼν δὲ ὁ Σωκράτης τὸν ἄνθρωπον, εἶπεν, ἔφη, ὦ βέλτιστε, σὺ γὰρ τούτων ἐπιστήμων τί χρὴ ποιεῖν; Οὐδὲν ἄλλο, ἔφη, ἢ πίνοντα περιεῖναι, ἕως ἂν σου βάρος ἐν τοῖς σκέλεσι γένηται, ἔπειτα κατακείσθαι καὶ οὕτως αὐτὸ ποιήσει. καὶ ἅμα ὥρεξε τὴν κύλικα τῷ Σωκράτει. From what and where is πίνοντα?

5. (Herod. VII. 234; Reader, p. 155, § 57). Οἱ μὲν δὴ περὶ Θερμοπύλας Ἕλληνες οὕτω ἡγωνίσαντο· Ξέρξης δὲ καλέσας Δημάρητον εἰρώτα

ἀρξάμενος ἐνθένδε. Δημάρητε, ἀνὴρ εἰς ἀγαθός. τεκμαίρομαι δὲ τῇ ἀληθείῃ· ὅσα γὰρ εἶπας, ἅπαντα ἀπέβη οὕτω. νῦν δέ μοι εἰπέ, κόσοι τινές εἰσι οἱ λοιποὶ Λακεδαιμόνιοι, καὶ τούτων ὁκόσοι τοιοῦτοὶ τὰ πολέμα, εἶτε καὶ ἅπαντες. ὁ δ' εἶπε· ὦ βασιλεῦ, πλῆθος μὲν Λακεδαιμονίων πολὺν, καὶ πόλεις πολλαί· τὸ δὲ ἐθέλεις ἐκμαθεῖν, εἰδήσεις.

## GREEK POETRY.

1. Τὼ γ' ὥς βουλευσάντε διέτμαγεν· ἡ μὲν ἔπειτα  
Εἰς ἅλα ἄλτο βαθείαν ἀπ' αἰγλήεντος Ὀλύμπου,  
Ζεὺς δὲ ἐὼν πρὸς δῶμα. Θεοὶ δ' ἅμα πάντες ἀνέστησαν  
Ἐξ ἐδέων, σφοῦ πατρὸς ἐναντίον· οὐδέ τις ἔτλη  
Μεῖναι ἐπερχόμενον, ἀλλ' ἀντίοι ἔσταν ἅπαντες.  
Ὡς ὁ μὲν εὖθια καθέζετο ἐπὶ θρόνον· οὐδέ μιν Ἥρη  
Ἦγνοίησεν ἰδοῦσ' ὅτι οἱ συμφράσσαστο βουλὰς  
Ἀργυρόπεξα Θέτις, θυγάτηρ ἀλίοιο γέροντος.

Iliad, I. 531-539.

Where is διέτμαγεν found? Attic for σφοῦ, ἔσταν.

2. Δεύτερον αὐτ' Ὀδυσῆα ἰδὼν ἐρέειν ὁ γεραίος·  
“Εἴπ' ἄγε μοι καὶ τόνδε, φίλον τέκος, ὅς τις ὁδ' ἐστὶν  
Μεῖων μὲν κεφαλῇ Ἀγαμέμνονος Ἀτρεΐδαο,  
Εὐρύτερος δ' ὁμοίῳ ἰδὲ στέρνοισιν ἰδέσθαι.  
Τεύχεα μὲν οἱ κεῖται ἐπὶ χθονὶ πουλυβοτείρῃ,  
Αὐτὸς δὲ κτεῖλος ὥς ἐπιπωλείται στίχας ἀνδρῶν.  
Ἀρνεῖω μιν ἔγωγε εἴσκω πηγεσιμᾶλλφ,  
Ὅς τ' οἷον μέγα πῶϋ διέρχεται ἀργεννάων.”

Iliad, III. 191-198.

Divide the first two verses into feet.

## LATIN GRAMMAR.

Mark the quantity of the penults and last syllables of the following words: *custodis, arbores, frigora, gladiolus, infamis* (nom.), *victricis* (acc. plur.), *inopis, petitur, perivit, periit, peritus, ambitus, apices*.

Decline *decus, locus, specus, celeber, quivis*; compare *inferus, humilis*. Form and compare *loquax, sanctus*.

Form derivatives with the terminations *-tas, -tor, -ensis, -olus, -sco*, and give their meaning.

Give the principal parts of *sumo, sentio, libet, pateo, patior, spondeo, adjuvo, tollo, disco, vereor, facio* with *con, eo* and *do* with *re*.

Give a synopsis of the Subjunctive Active and Passive (first Person) of two of these verbs not of the same conjugation. Give a complete synopsis of one other. Inflect the Imperative of *patior*. Give all the Participles and Infinitives of *sentio*.

Explain the formation of the presents *gigno* and *frango*, of the perfects *didici* and *dixi*, and of the participle *natus*.

What case or cases (separately or together) follow *persuadeo, moneo, obliviscor, solvo, vereor, prae, sub*?

Translate into Latin, with gerundive (participle in *-dus*), *The city must be spared, I must go.*

What construction is used in clauses (or verbs) after *timeo*, *gaudeo*, *dico*, *audeo*?

How are future conditions expressed in Latin? Express in Latin, in as many ways as you can, "Antony came to bury (*sepelio*) Caesar."

What difference in meaning between *utinam sim* and *utinam essem*?

## LATIN COMPOSITION AND TRANSLATION AT SIGHT.

Candidates for the Freshman Class are required to translate the whole of I.; and in II. only to 2, "He said." Candidates for Advanced Standing will translate the whole of I. and II.

### I.

Translate into English:—

Restat ut doceam omnia, quae sint in hoc mundo, quibus utantur homines, hominum causa facta esse et parata. Principio ipse mundus deorum hominumque causa factus est, quaeque in eo sunt, ea parata ad fructum hominum et inventa sunt. Est enim mundus quasi communis deorum atque hominum domus aut urbs utrorumque. Ut igitur Athenas et Lacedaemonem Atheniensium Lacedaemoniorumque causa putandum est conditas esse, omniaque, quae sint in his urbibus, eorum populorum recte esse dicuntur, sic quaecumque sunt in omni mundo deorum atque hominum putanda sunt.

### II.

Translate into Latin:—

1. It was the custom<sup>1</sup> in old times for senators at Rome to enter<sup>2</sup> the senate-house<sup>3</sup> attended-by<sup>4</sup> their young<sup>5</sup> sons. The mother of Papirius asked<sup>6</sup> her son what-in-the-world<sup>7</sup> the fathers had been doing<sup>8</sup> in the senate. The boy answered that it must be-kept-secret.<sup>9</sup> The woman gets<sup>10</sup> more eager<sup>11</sup> to hear. Then the boy resorts-to<sup>12</sup> an ingenious<sup>13</sup> lie.<sup>14</sup>

<sup>1</sup> mos. <sup>2</sup> introire. <sup>3</sup> curia. <sup>4</sup> cum. <sup>5</sup> praetextatus. <sup>6</sup> percontari. <sup>7</sup> quisnam. <sup>8</sup> agere. <sup>9</sup> tacere. <sup>10</sup> fieri. <sup>11</sup> cupidus. <sup>12</sup> consilium capere (with the genitive). <sup>13</sup> festivus. <sup>14</sup> mendacium.

2. He said that the-discussion-had-been<sup>1</sup> whether it was more expedient<sup>2</sup> for one man to have two wives or for one woman to have two husbands.<sup>3</sup> The-next-day<sup>4</sup> the matrons beg<sup>5</sup> the senate that one woman might rather<sup>6</sup> be-married-to<sup>7</sup> two men than that two women might have one husband.

<sup>1</sup> agere (passive). <sup>2</sup> utilis. <sup>3</sup> maritus. <sup>4</sup> postridie. <sup>5</sup> obsecrare. <sup>6</sup> potius. <sup>7</sup> nubere.

## CAESAR, SALLUST, AND OVID.

### CAESAR AND SALLUST.

Translate two passages, — the *first* and one other.

I. Quo proelio bellum Venetorum totiusque orae maritimae confectum est. Nam cum omnis juvenus, omnes etiam gravioris aetatis, in quibus aliquid consilii aut dignitatis fuit, eo convenerant. tum navium quod

ubique fuerat in unum locum coegerant; quibus amissis reliqui neque quo se reciperent neque quemadmodum oppida defenderent habebant. Itaque se suaque omnia Caesari dederunt. In quos eo gravior Caesar vindicandum statuit, quo diligentius in reliquum tempus a barbaris jus legatorum conservaretur. Itaque omni senatu necato reliquos sub corona vendidit. — CAESAR, B. G. III.

II. His rebus permotus Q. Titurius, cum procul Ambiorigem suos cohortantem conspexisset, interpretem suum Cn. Pompeium ad eum mittit rogatum ut sibi militibusque parcat. Ille appellatus respondit: Si velit secum colloqui, licere; sperare a multitudine impetrari posse quod ad militum salutem pertineat; ipsi vero nihil nocitum iri, inque eam rem se suam fidem interponere. Ille cum Cotta saucio communicat, si videatur, pugna ut excedant et cum Amborige una colloquantur; sperare ab eo de sua ac militum salute impetrare posse. Cotta se ad armatum hostem iturum negat atque in eo constitit. — CAESAR, B. G. V.

III. Atheniensium res gestae, sicut ego aestumo, satis amplae magnificaeque fuere, verum aliquanto minores tamen quam fama feruntur. Sed quia provenire ibi scriptorum magna ingenia, per terrarum orbem Atheniensium facta pro maximis celebrantur. Ita eorum qui ea fecere virtus tanta habetur, quantum ea verbis potuere extollere praeclara ingenia. At populo Romano numquam ea copia fuit, quia prudentissimus quisque maxime negotiosus erat; ingenium nemo sine corpore exercebat: optimus quisque facere quam dicere, sua ab aliis bene facta laudari quam ipse aliorum narrare malebat. — SALLUST, Cat. viii.

IV. "Patres conscripti. Micipsa pater meus moriens mihi praecepit, uti regni Numidiae tantummodo procurationem existimarem meam, ceterum jus et imperium ejus penes vos esse; simul eniterer domi militiaeque quam maximo usui esse populo Romano, vos mihi cognatorum, vos affinium loco ducerem; si ea fecissem, in vostra amicitia exercitum, divitias, munimenta regni me habiturum. Quae cum praecepta parentis mei agitarer, Jugurtha, homo omnium quos terra sustinet sceleratissimus, contempto imperio vostro, Masinissae me nepotem et jam ab stirpe socium atque amicum populi Romani regno fortunisque omnibus expulsi." — SALLUST, Jug. xiv.

#### OVID.\*

Translate any one of the following passages.

- V. Inde loco medius rerum novitate paventem  
Sol oculis juvenem, quibus adspicit omnia, vidit,  
"Quaeque viae tibi causa? Quid hac," ait, "arce petisti,  
Progenies, Phaëthon, haud infitianda parenti?"  
Ille refert: "O lux immensi publica mundi,  
Phoebe pater, si das hujus mihi nominis usum,  
Fignora da, genitor, per quae tua vera propago  
Credat, et hunc animis errorem detrahe nostris."  
Dixerat. At genitor circum caput omne micantes  
Deposuit radios, propiusque accedere jussit,  
Amplexuque dato, "Nec tu meus esse negari  
Dignus es, et Clymene veros," ait, "edidit ortus." — Mett. II.

\* Passages VII and VIII. were given for the benefit of those who might wish to offer portions of Virgil as an equivalent for Ovid.



- VI. Psittacus, Eois imitatrix ales ab Indis,  
 Occidit: exsequias ite frequenter aves.  
 Ite, pia<sup>9</sup> volucres; et plangite pectora pennis;  
 Et rigido teneras ungue notate genas.  
 Horrida pro maestis lanietur pluma capillis:  
 Pro longa resonent carmina vestra tuba.  
 Quid scelus Ismarii quereris, Philomela, tyranni?  
 Expleta est annis ista querela suis.  
 Alitis in rarae miserum devertite funus.  
 Magna, sed antiqui causa doloris Itys.  
 Omnes quae liquido librat<sup>9</sup>is in aëre cursus;  
 Tu tamen ante alias, turtur amice, dole. — *Am. II.*

- VII. Sin autem ad pugnam exierint — nam saepe duobus  
 Regibus incessit magno discordia motu,  
 Continuoque animos volgi et trep<sup>9</sup>idantia bello  
 Corda licet longe praesciscere; namque morantis  
 Martius ille aeris rauci canor increpat, et vox  
 Auditur fractos sonitus imitata tubarum;  
 Tum trepidae inter se coeunt, pennisque coruscant,  
 Spiculaque exacuunt rostris, aptantque lacertos,  
 Et circa regem atque ipsa ad praetoria densae  
 Miscentur, magnisque vocant clamoribus hostem.

*Virg. Georg. IV.*

- VIII. Ipse, caput nivei fultum Pallantis et ora  
 Ut vidit levique patens in pectore vulnus  
 Cusp<sup>9</sup>idis Ausoniae, lacrimis ita fatur obortis:  
 Tene, inquit, miserande puer, cum laeta veniret,  
 Invidit Fortuna mihi, ne regna videres  
 Nostra, neque ad sedes victor veherere paternas?  
 Non haec Euandro de te promissa parenti  
 Discedens dederam, cum me complexus euntem  
 Mitteret in magnum imperium, metuensque moneret  
 Acris esse viros, cum dura proelia gente. — *Virg. Aen. XI.*

## CICERO AND VIRGIL.

### CICERO.

Translate two passages. If you have read the Cato Major, translate I. and either III. or IV.; if not, translate II. and either III. or IV. Answer all the questions.

I. An ne eas quidem vires senectuti relinquemus ut adolescentulos doceat, instituat, ad omne officii munus instruat? Quo quidem opere quid potest esse praeclarius? Mihi vero Cn. et P. Scipiones et avi tui duo, L. Aemilius et P. Africanus, comitatu nobilium juvenum fortunati videbantur; nec ulli bonarum artium magistri non beati putandi, quamvis consenuerint vires atque defecerint. — *DE SENECTUTE, ix. 29.*

II. Quid autem aliud egimus, Tubero, nisi ut quod hic potest nos possemus? Quorum igitur impunitas, Caesar, tuae clementiae laus est, eorum ipsorum ad crudelitatem te acuit oratio. Atque in hac causa non nihil equidem, Tubero, etiam tuam, sed multo magis patris tui prudentiam desidero, quod homo cum ingenio tum etiam doctrina excellens genus hoc causae quod esset non viderit; nam si vidisset, quovis profecto quam isto modo a te agi maluisset. — *PRO LIGARIO, iv.*

III. Tertium genus est aetate jam affectum, sed tamen exercitatione robustum, quo ex genere iste est Manlius, cui nunc Catilina succedit: sunt homines ex eis coloniis, quas Sulla constituit; quas ego universas civium esse optimorum et fortissimorum virorum sentio, sed tamen ii sunt coloni, qui se in insperatis ac repentinis pecuniis sumptuosius insolentiusque jactarunt. Hi dum aedificant tamquam beati, dum praediis lectis, familiis magnis, conviviis apparatis delectantur, in tantum aes alienum inciderunt, ut, si salvi esse velint, Sulla sit eis ab inferis excitandus. — IN CATILINAM, II. ix.

IV. Quare quis tandem me reprehendat aut quis mihi jure succenseat, si, quantum ceteris ad suas res obeundas, quantum ad festos dies ludorum celebrandos, quantum ad alias voluptates et ad ipsam requiem animi et corporis conceditur temporum, quantum alii tribuunt tempestivis conviviis, quantum denique alveolo, quantum pilae, tantum mihi egomet ad haec studia recolenda sumpsero? Atque hoc ideo mihi concedendum est magis, quod ex his studiis haec quoque crescit oratio et facultas, quae quantacumque in me est, numquam amicorum periculis defuit. — PRO AANCHIA, vi.

1. What offices did the Romans generally go through before their consulship?

2. What is the difference between *ne* and *ut non* followed by the Subjunctive?

3. What was the fate of Catiline's fellow-conspirators, and what complaint was made of it?

#### VIRGIL.

Translate two passages, — I. and either II. or III. Answer all the questions.

I. Pauca tamen suberunt priscae vestigia fraudis,  
Quae temptare Thetis ratibus, quae cingere muris  
Oppida, quae iubeant telluri infundere sulcos.  
Alter erit tum Tiphys, et altera quae vehat Argo  
Delectos heroas; erunt etiam altera bella,  
Atque iterum ad Troiam magnus mittetur Achilles.  
Hinc, ubi iam firmata virum te fecerit aetas,  
Cedet et ipse mari vector, nec nautica pinus  
Mutabit merces: omnis feret omnia tellus. — Ecl. IV.

II. Postera iamque dies primo surgebat Eo,  
Humentemque Aurora polo dimoverat umbram:  
Cum subito e silvis, macie confecta suprema,  
Ignoti nova forma viri miserandaque cultu  
Procedit supplexque manus ad litora tendit.  
Respicimus. Dira inlucies inmissaque barba,  
Consertum tegumen spinis; at cetera Graius,  
Et quondam patriis ad Troiam missus in armis. — Aen. III.

III. Primus equum phaleris insignem victor habeto,  
Alter Amazoniam pharetram plenamque sagittis  
Threiciis, lato quam circumplectitur auro  
Balteus, et tereti subnectit fibula gemma;  
Tertius Argolica hac galea contentus abito.  
Haec ubi dicta, locum capiunt, signoque repente  
Corripiunt spatia audito, limenque relinquunt,  
Effusi nimbo similes, simul ultima signant. — Aen. V.

1. Give a brief summary of the events in Aeneid IV.
2. Divide into feet, marking quantities and ictus (or verse accent), the fifth line in I.
3. How does the metre help to determine the meaning of the fifth line in II.?

## ARITHMETIC AND LOGARITHMS.

Give the work in full, and arrange it in an orderly manner. Reduce each answer to its simplest form.

## LOGARITHMS.

1. Find, by logarithms, the value of  $\frac{0.9 \times 147.2}{5.047}$ .
2. Find, by logarithms, the value of  $\left(\frac{(184.9)^2 \times \sqrt[5]{.16}}{10000 \times 46.49}\right)^3$ .
3. Give a proof of the process of finding any root of a quantity by logarithms. If the characteristic of the logarithm of the given quantity is negative, how is the characteristic of the logarithm of the root obtained?

## ARITHMETIC.

4. What part of  $2\frac{1}{2}$  is  $\frac{7\frac{3}{8}}{31\frac{3}{8}} \times \frac{7\frac{3}{8} - 4\frac{1}{2}}{\frac{1}{2} \times 3\frac{3}{8}}$ ?
5. A carriage, at the rate of  $8\frac{1}{2}$  miles an hour, completes  $\frac{3}{4}$  of a certain distance in  $3\frac{1}{2}$  days; in how many days will it complete  $\frac{4}{5}$  of the same distance, going at the rate of 10 miles an hour?
6. A merchant buys  $2\frac{3}{4}$  hectometres of silk for \$480, and sells the silk at \$1.95 a yard. Does he gain or lose, and how much?
7. Find the cube root of 0.083453453.
8. Thirty-six persons buy 2766 A. 3 R. 12 P. of land on equal shares. What does one man receive, who sells  $\frac{3}{8}$  of his share at 1s. 9d. 2f. per square rod? [Give the answer in pounds and decimals of a pound.]
9. What is gold quoted at, when one dollar in currency is worth only seventy-five cents?

## ALGEBRA.

## COURSE I.

Give the whole work clearly, and reduce each answer to its simplest form.

1. Divide

$$\frac{a-1}{a} + \frac{b-1}{b} + \frac{c-1}{c} - 1 \text{ by } 2 - \left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right).$$

2. A can do a piece of work in half the time in which B can do it, B can do it in two-thirds the time in which C can do it, and all three, working together, can do it in 6 days. Find the time in which each can do it alone.

3. Find the two middle terms in the expansion of  $(a - x)^9$ . What is the reason that one of these terms is negative, and the other is positive?

4. Find the fourth root of  $\sqrt[3]{a^2c^2}$ . [Fractional exponents may be used if desired.]

5. One number is  $\frac{1}{3}$  of another, and the product of these two numbers is 750. What are the numbers?

$$\begin{aligned} 6. \text{ Solve the equations } ax + by &= c, \\ mx - ny &= d. \end{aligned}$$

7. I bought a certain number of oxen for £80. Had I bought four more with the same money, each ox would have cost £1 less. How many did I buy, and what did I pay for each?

8. Find the square root of

$$a^{4m} + 6a^{3m}c^n + 11a^{2m}c^{2n} + 6a^mc^{3n} + c^{4n}.$$

### COURSE II. AND ADVANCED STANDING.

Give the whole work clearly, and reduce each answer to its simplest form.

$$\begin{aligned} 1. \text{ Simplify } & \frac{\frac{a+1}{b} - 2 + \frac{b-1}{a}}{\frac{a-1}{b} - 2 + \frac{b+1}{a}}. \end{aligned}$$

2. A man rides a certain distance at the rate of 8 miles an hour, and walks back to his starting-point at the rate of 4 miles an hour. The time employed in going and returning is 6 hours. How far does he walk?

$$3. \text{ Divide } \frac{\sqrt{c}}{d^{\frac{1}{2}}} \text{ by } c^{\frac{1}{2}}d^{-\frac{1}{2}}.$$

4. Solve the equation  $x^2 + 2ax = b$ . What will the roots be if  $a = 2$ ,  $b = -4$ ? If  $a = 4$ ,  $b = -20$ ?

5. What is the 4th term of  $(a - x)^{n+1}$ ?

6. The greater of two numbers is  $a^2$  times the less; the product of these two numbers is  $b^2$ . Find the numbers.

7. There are 3 numbers in arithmetical progression: the sum of these numbers is 18, and the sum of their squares is 158. Find the numbers.

8. I have 4 single books and a set of 3 books. In how many ways can I arrange these 7 books on a shelf, provided the books which make the set cannot be separated?

### PLANE GEOMETRY.

1. In a triangle  $ABC$  the angle  $A$  is greater than the angle  $B$ , and  $B$  is greater than  $C$ ; what is true of the sides? State and prove. State and prove the converse.

2. Prove that two triangles are equal if the sides of one are respectively equal to the sides of the other.

3. Prove that when two circumferences touch each other the point of contact and the centres lie in one straight line.



8. Solve the right triangle in which one angle is  $74^{\circ} 18'$ , and the hypotenuse is  $\sqrt[3]{.01}$ .

4. What angle in the third quadrant has a cosine equal to the sine of  $830^{\circ}$ ?

5. Obtain, from fundamental formulæ,

$$\frac{\cos(x+y)}{\cos(x-y)} = \frac{1 - \tan x \tan y}{1 + \tan x \tan y}.$$

6. Obtain, from the second member of the equation in the previous question, an equally simple expression in terms of the cotangents of  $x$  and  $y$ .

7. Find the smallest angle in the triangle whose sides are 1236, 1342, 1729.

8. Obtain the formulæ necessary for the complete solution of an oblique triangle, in which are given two sides and the included angle.

### ANALYTIC GEOMETRY.

Ask for a Table of Natural Cosines.

1. To find the equation of a straight line that passes through two given points.

2. Find the equation of a straight line that passes through the origin and the point  $(-3, 2)$ .

3. Find the equation of a straight line which passes through the point  $(2, -1)$  and makes an angle of  $45^{\circ}$  with the line  $x - 2y + 3 = 0$ .

4. Establish formulæ for changing rectangular into polar co-ordinates.

5. Write down the equation of a circle having a radius  $= 7$ , and its centre at  $(3, -4)$ .

6. What curves do these equations represent?

$$9x^2 + 16y^2 = 144, \quad 9x^2 - 16y^2 = 144.$$

What are the polar equations of these curves? Sketch one of these curves from its rectangular equation, and the other from its polar equation. Find the *foci*. Find the *parameter* of each curve, and draw it.

7. Which of the points  $(4, 2\frac{1}{2})$ ,  $(3, -3\frac{1}{2})$ ,  $(3, 3\frac{1}{2})$ , is on the curve  $\frac{x^2}{25} + \frac{y^2}{16} = 1$ . Find the equation of the *tangent* and that of the *normal* at this point. Find also the lengths of the subtangent and subnormal.

8. How do you find the points where two curves intersect? As an example take these two curves:  $y^2 = 4x$  and  $x^2 + 6x + y^2 = 24$ . What are these curves? Draw them.

### ANCIENT HISTORY AND GEOGRAPHY.

Take the *first three*, and *one other*; *four* in all.

1. Name in the order of time the successive conquests made by the Romans, and note distinctly the position of each conquered state or district.

2. By a map or by words represent or describe Sicily. Point out its place in Grecian and in Roman history.
  3. Name *eight* places that were noted in ancient times : four Greek and four Roman. Give their situation, and show their importance in history.
  4. What objects would a Roman be sure to point out to a stranger visiting Rome in the time of Augustus ? Describe some of them. Show, by a rough plan, their position relatively to each other, and connect them with events in Roman history.
  5. The legislation of Solon.
  6. The Gracchi and the Agrarian Laws. State precisely the character of these laws.
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### MODERN AND PHYSICAL GEOGRAPHY.

1. Upon what principle is Mercator's map constructed ? How do the parallels and meridians appear upon it ? What distortion is produced in the forms of the countries ?
  2. Draw an outline map of Africa, and put upon it, in their proper positions, the equator and the meridian of Greenwich. Give also the names of the bodies of water surrounding the continent, and the positions of important islands near the coast.
  3. What is shown by a profile of a country ? Draw a profile of South America, from the mouth of the Amazon to the Pacific Ocean.
  4. Describe the southern coast of Europe, giving the names of countries, bodies of water, important islands, principal seaports, and largest rivers.
  5. What time is it at Madras when it is eight o'clock in the morning at Boston ?  
Longitude of Madras,  $80^{\circ}$  E. ; of Boston,  $71^{\circ}$  W.
  6. Where is the Great Bear Lake ? Why was it so named ? What other large lakes are near it ? Which continent has the smallest number of lakes ? Where are the principal salt lakes, and why are they salt ?
  7. Where does the Colorado River rise and empty ? What are the most striking physical features of the country through which it flows ?  
Answer the same questions for each of the following rivers : Columbia, Niagara, Hudson, Seine, Ganges.
  8. What cities of Europe are in nearly the same latitude as New York ?
  9. Describe two water routes between Marseilles and Hong Kong.
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### ENGLISH COMPOSITION.

A short English composition is required, correct in spelling, punctuation, grammar, and expression. Thirty lines will be sufficient. Make at least two paragraphs.

**Subject:** the story of the Caskets, in the "Merchant of Venice;"  
or, the story of Shakspeare's "Tempest;"  
or, the story of Rebecca, in Scott's "Ivanhoe."

## FRENCH.

## 1. Translate into English:—

Aux extrémités de l'Asie et sur les confins de l'Afrique existait un peuple qui, par sa position et son courage, avait échappé aux conquêtes des Perses, d'Alexandre et des Romains. De ses nombreuses tribus, les unes *devaient* leur subsistance à l'agriculture; les autres avaient conservé la vie pastorale: toutes se livraient au commerce, et quelques-unes au brigandage. Réunies par une même origine, par un même langage, par quelques habitudes religieuses, elles formaient une grande nation, dont cependant aucun lien politique n'unissait les portions diverses. Tout à coup *s'éleva* au milieu d'elles un homme doué d'un ardent enthousiasme et d'une politique profonde, né avec les talents d'un poète et ceux d'un guerrier. Il *conçoit* le hardi projet de réunir en un seul corps les tribus arabes, et il a le courage de l'exécuter. — CONDORCET.

## 2. State mood and tense of italicized verbs, and give them in full.

3. Give the principal tenses of *partir*, *aller*, *connaître*, *pouvoir*, thus: Inf., *avoir*; Pres. Part., *ayant*; Past Part., *eu*; Ind. Pres., *j'ai*; Preter., *j'eus*.

## 4. Translate into French:—

(a) Do you think<sup>1</sup> that he is your friend<sup>2</sup>? (b) We have no confidence<sup>3</sup> in him. (c) I see<sup>4</sup> him coming.<sup>5</sup> (d) It is the largest<sup>6</sup> street<sup>7</sup> in the town.<sup>8</sup> (e) I fear<sup>9</sup> it will rain.<sup>10</sup>

<sup>1</sup> penser. <sup>2</sup> ami, m. <sup>3</sup> confiance, f. <sup>4</sup> voir. <sup>5</sup> venir. <sup>6</sup> grand. <sup>7</sup> rue, f. <sup>8</sup> ville, f. <sup>9</sup> craindre. <sup>10</sup> pleuvoir.



COURSES OF INSTRUCTION  
IN  
HARVARD COLLEGE,  
WITH SOME OF  
THE EXAMINATION PAPERS,\*  
FOR THE ACADEMIC YEAR 1873-74.

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I. THE CLASSICS.

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GREEK.

PRESCRIBED GREEK.

FRESHMAN YEAR. — MESSRS. ALLEN and GOULD.

Plato (Apology and Crito). — Herodotus (Selections from Book I.). — Odyssey (Books I., V.—XII.). — Demosthenes (three Olynthiacs). — Goodwin's Syntax of the Greek Moods and Tenses. — Composition. — Grote's Greece (Selections).

*Seven hours in two weeks.*

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PRESCRIBED GREEK.

HOMER, Odyssey, Books I., V.—XII.

1. Translate (giving the exact force and meaning of every word) :—

- (a) αὐτὰρ ἐγὼν ἐπὶ νῆας αἴμ' ἀντιθέοις ἐτάροισιν  
ἦϊα, πολλὰ δέ μοι χραδίῃ πόρφυρε κίοντι.  
αὐτὰρ ἐπεὶ ῥ' ἐπὶ νῆα κατήλθομεν ἠδὲ θάλασσαν,  
δόρπον θ' ὀπλίσάμεσθ', ἐπὶ τ' ἦλυθεν ἀμβροσίῃ νύξ·  
δὴ τότε κοιμήθημεν ἐπὶ ῥηγμῖνι θαλάσσης.  
ἦμος δ' ἠριγένεια φάνη ῥοδοδάκτυλος Ἥως,  
νῆας μὲν πᾶμπρωτον ἐρύσσαμεν εἰς ἄλα διαν,  
ἐν δ' ἰστοὺς τιθέμεσθα καὶ ἰστία νηυσὶν ἐΐσης·  
ἀν δὲ καὶ αὐτοὶ βάντες ἐπὶ κληῖσι καθίζον·  
ἐξῆς δ' ἐζόμενοι πολλὴν ἄλα τύπτον ἐρετμοῖς. — IV. 571-580.

\* Papers corresponding to those omitted this year may be expected next year, or may be found in the Catalogue of last year.

- (b) ἔνθα κέ μ' ἐκβαίνοντα βίησατο κύμ' ἐπὶ χέρσου,  
πέτρης πρὸς μεγάλῃσι βαλὼν καὶ ἀτερπέϊ χάρῃ·  
ἀλλ' ἀνάχασσάμενος νῆχον πάλιν, εἰς ἐπήλθον  
ἐς ποταμὸν, τῇ δὴ μοι εἰείσατο χώρος ἄριστος, — VII. 278–281.
- (c) „Σχέτλιε, τίπτ' ἐθέλεις ἐρεθίζεμεν ἄγριον ἄνδρα;  
ὅς καὶ νῦν πόντονδε βαλὼν βέλος ἤγαγε νῆα  
αἴτις ἐς ἥπειρον, καὶ δὴ φάμεν αὐτόθ' ὀλέσθαι.  
εἰ δὲ φθεγξαμένου τευ ἡ αὐδήσαντος ἀκουσεν,  
σύν κεν ἄρεξ' ἡμέων κεφαλὰς καὶ νῆια δοῦρα  
μαρμάρῳ ὀκρίονετι βαλὼν· τόσσον γὰρ ἴησιν.“ — IX. 494–499.

2. Translate, and explain the construction of the verbs, giving in each case the equivalent construction in Attic Greek: —

- (a) οὐ γάρ μοι πάρα νῆες ἐπήρετμοι καὶ ἐταῖροι,  
οἳ κέν μιν πέμποιεν ἐπ' εὐρέα νῶτα θαλάσσης.
- (b) ἡματί κ' εἰκοστῷ Σχερίην ἐρίβωλον ἴκοιτο,  
Φαιήκων ἐς γαίαν, οἳ ἀγχίθιοι γεγάασιν,  
οἳ κέν μιν περὶ κῆρι θεὸν ὥς τιμήσουσιν.
- (c) ὥς δ' ἄνεμος ζαῖς ἡῶν θημῶνα τινάξῃ  
κυρφαλέων, τὰ μὲν ἄρ τε διεσκέδασ' ἄλλυδις ἄλλη,  
ὥς τῆς δούρατα μακρὰ διεσκέδασ'.
- (d) οὐκ ἔσθ' οὗτος ἀνὴρ διερός βροτὸς, οὐδὲ γένηται,  
ὅς κεν Φαιήκων ἀνδρῶν ἐς γαίαν ἴκηται.
- (e) τῇ δ' οὕτω τις νηὺς φύγεν ἀνδρῶν, ἣτις ἴκηται.

3. Explain, by comparison with kindred words in Latin and English, the apparent hiatus and false quantities in the following lines: —

Ἄλκινδου δ' ἐκ τοῦδ' ἔχεται ἔργον τε ἔπος τε.  
πρῶτα μελικρήνη, μετέπειτα δὲ ἡδεῖ οἶνω.  
ῥηϊδίον τοι ἔπος ἐρέω καὶ ἐνὶ φρεσὶ θήσω.  
δὴ τότε κοιμήθημεν ἐπὶ ῥηγμῖνι θαλάσσης.  
τὸν μὲν ἐγὼ δάκρυσα ἰδὼν ἐλέησά τε θυμῷ.

Show the relation of *larme* (French) and *tear* (English) to δάκρυ.

4. (a) Give the composition and meaning of the following adjectives: — θυμοδακῆς μῦθος, διῦπέτης ποταμός, ἀμβρόσια πέδιλα, νηλεὲς χαλκός, νηνεμία γαλήνη, ἑκπαγλός ἐνιπῆ.

(b) Give the derivation and meaning of the following words: — βωμός, σχέτλιος, κληῖς (as used in the first passage in 1), Nausicaa, Echeñeus, and Eretneus.

5. (a) What is the probable date of Homer?

(b) What can be said to shake our faith in Homer as a person or as the author of the Iliad and Odyssey?

(c) What two great poets have attempted to improve upon the idea of the Eleventh Book of the Odyssey, and how have they varied from their original?

PLATO, *Apology and Crito.*

## APOLOGY.

Translate Ch. XX., A and B, from the beginning through ὑμῖν ἔδοξε. Construction of εἰδῆτε? ἀρχήν? Where is the protasis of ὑπεικάθοιμι? What peculiarity in οὐδ' ἂν ἐνὶ? How does μή differ from οὐ when used with a participle? What does μὴ ὑπείκων represent? When and where was this naval battle? Of what were the generals guilty? What was Socrates' reason for the course he pursued? Describe the constitution of the Athenian Senate with especial reference to the word *πρυτανεύουσα*. What was the office that Socrates held on that particular day? How old was Socrates when the generals were tried? From what Present, and in what voice, mood, and tense, are the following verbs made: — *ξυμβεβηκότα, εἰδῆτε, ἀπολοίμην, ἐρῶ, ἔτυχεν*?

## CRITO.

Translate Ch. X., B, from ἡ παντὸς μᾶλλον through οὐ δεῖ δή που, δὲ Σώκρατες. How does Socrates prove from these premises that it is wrong for him to escape from prison? Who was Plato, and in what relation did he stand to Socrates? How large was the jury at his trial, and how many voted against him?

## HERODOTUS, Book I.

Translate:—

Ἀποθανόντος δὲ τούτου Ἀρπαγὸς κατέβη διάδοχος τῆς στρατηγίης, γένος καὶ αὐτὸς ἐὼν Μῆδος, τὸν δὲ Μῆδων βασιλεὺς Ἀστυάγης ἀνόμῳ τραπέζῃ ἔδασε, ὃ τῷ Κύρῳ τὴν βασιληίην συγκατεργασάμενος. οὗτος ὢν ἡρὸς τότε ὑπὸ Κύρου στρατηγὸς ἀποδεχθεὶς ὥς ἀπῆκετο εἰς τὴν Ἰωνίην, αἶρεε τὰς πόλεις χῶμασι. ὅπως γὰρ τειχίρεας ποιήσκει, τὸ ἐνθεύτεν χῶματα χῶν πρὸς τὰ τεῖχεα ἐπόρθει.

Construction of ποιήσκει? Give the Attic Greek for ten of the Ionic forms. What is the force of καὶ αὐτὸς? Who was the founder of Astyages' line, and how many kings had preceded him? Explain the allusion in ἀνόμῳ τραπέζῃ. Give the principal dates in Cyrus' reign. Who was the King of Ionia, and who was the reputed founder of his line?

DEMOSTHENES, *Olynthiacs.*

τὸ πρῶτον Ἀμφίπολιν λαβὼν, μετὰ ταῦτα Πύδναν, πάλιν Ποτίδαιαν, Μεθώνην αὖθις, εἰτα Θετταλίαν ἐπέβη· μετὰ ταῦτα Φερὰς, Παγασὰς, Μαγνησίαν. Give the geographical position, by map or otherwise, of all these places, and the date of the beginning and the end of this series. What was the occasion and the purpose of the Olynthiacs? How many years could a Greek say there were between June 6, 1874, and August 6, 1875?

**ELECTIVES.****Greek 1. — ASST. PROF. ANDERSON.**

Æschylus (Prometheus). — Homer's Odyssey (Books IX., X., XII., XXI., XXII.). — Plato (Symposium, Selections).

*Two hours a week. 84 Sophomores, 8 Freshmen.*

**Greek 2. — ASST. PROF. ANDERSON.**

Demosthenes (Philippics, I., II., III.). — Grote's History of Greece, Part II., Chapters 86-90. — Euripides (Medea). — Aristophanes (Knights, 1-860).

*Two hours a week. 2 Juniors, 66 Sophomores, 4 Freshmen.*

**Greek 3. — PROF. GOODWIN.**

Thucydides (parts of Books I-IV.). — Herodotus (Selections). — Grote's History of Greece.

*Three hours a week. (This course was not given.)*

**Greek 4. — ASST. PROF. ANDERSON (in the absence of PROF. GOODWIN).**

Æschines (against Ctesiphon). — Demosthenes (on the Crown). — Sophocles (Cedipus Tyrannus). — Euripides (Hippolytus).

*Three hours a week. 1 Senior, 19 Juniors, 1 Sophomore.*

**Greek 5. — PROF. SOPHOCLES.**

Polybius and Plutarch (Selections).

*Three hours a week. 6 Seniors, 28 Juniors.*

**Greek 6. — MR. ALLEN (in the absence of PROF. GOODWIN).**

Æschylus (Seven against Thebes). — Sophocles (Electra). — Euripides (Medea). — Aristophanes (Frogs). — Practical Exercises in Text-Criticism and Interpretation.

*Three hours a week. 9 Seniors.*

**Greek 7. — ASST. PROF. EVERETT (in the absence of PROF. GOODWIN).**

Plato (Protagoras and parts of the Republic). — Aristotle (Ethics, Books I.-III.).

*Three hours a week. 8 Seniors, 5 Juniors.*

**Greek 8. — PROF. SOPHOCLES.**

Ecclesiastical Greek (Justin and Hippolytus).

*Three hours a week. 8 Seniors.*

## GREEK 2.

(February, 1874.)

DEMOSTHENES, Philippics; ARISTOPHANES, Knights, 1-497.

## A. PHILIPPICS.

1. Translate 1. 42; 2. 20; 3. 13, 14.
2. Translate appropriately and exactly:—
  - (α) 1. 40. τῆς πληγῆς ἔχεται,
  - (β) 2. 12. οὐδ' ἐν μὲν . . . ἀφέστηκεν,
  - (γ) 3. 6. ποιοῦντες τὸν πόλεμον,
  - (δ) 3. 9. εἴ τις . . . ᾔξει.
3. Explain the grammatical construction of
  - (α) 1. 27. ἵν' ᾗν,
  - (β) 2. 10. ἄν προέσθαι.
4. Where and from what present indicatives are these verbs made?
  - (α) 1. 12. ἀπηρτημένοι,
  - (β) 2. 3. συνείητε,
  - (γ) 3. 4. προείτε,
  - (δ) 3. 39. ἀντεισῆται.
5. (α) 2. 15. Explain, without translating the passage, the drift of the argument here.  
 (β) 2. 25. What is the rhetorical figure here employed?
6. (α) At what time and under what circumstances was the First Philippic delivered?  
 (β) What were the political leanings during the period 359 to 338 B.C. of Thebes, Megalopolis, Olynthus, the Thessalians?  
 (γ) Indicate, by means of a rough map and the dates of the events you mention, the successive steps of the progress of Philip to the supreme power.  
 (δ) Indicate the position on your map (cf. γ) of the three cities mentioned in β.

## B. KNIGHTS.

7. Translate with explanatory notes 315-321, 335-341.
8. Explain the composition of, and the allusions in
  - (α) 19. διασκανδικίσης,
  - (β) 199. σκοροδάλμη,
  - (γ) 415. ἀπομαγαλαίς;
 also the allusions in
  - (δ) 237-8. Χαλκιδικόν—Χαλκιδέας,
  - (ε) 449. Βυρσίνης.

(June, 1874.)

DEMOSTHENES, Philippics; ARISTOPHANES, Knights; EURIPIDES, Medea.

1. Translate Phil. 1. 33 (\**Α μὲν οὖν . . . οὐδὲν ποιῶντες*).

2. Translate Knights 512-521 (*ἀ δὲ θαυμάζειν . . . ἔστησε τροπαία*): 624-631 (*καὶ μὴν . . . ἀνέσπασεν*). Who were Magnes, Eupolis Cratinus? Explain the terms *παράβασις*, *παρὰ τῷ Διονύσου* (536), *ξουνιάρατε* (560).

3. Translate and explain the following passages from the Medea: --

(α) *μοῦσαι . . .*

*. . . . . μοῖραν εἰπεῖν*, 421-430.

Where is *ὑμνεῦσαι* made? Etymology of *ᾠπασε*, *θέσπιν*.

(β) *. . . . οὐ μὴ δυσμενὴς . . . . .*

*. . . . . μὴ χαμαὶ πεσεῖν*, 1151-1170.

Explain *οὐ μὴ ἔσει*, *ἐμὴν χάριν*, *ἦνεσ'*, *ἡμπίσχετο*, *φθάνει μὴ πεσεῖν*.

4. Translate the following, with a full explanation of the constructions and allusions: --

(α) *οὐ γέλωτα δεῖ σ' ὀφλεῖν*

*τοῖς Σισυφείοις τοῖς τ' Ἰάσονος γάμοις*

*γεγῶσαν ἐσθλοῦ πατρὸς Ἥλιου τ' ἄπο.*

(β) *ἔπλευσας διδύμους ὀρίσασα*

*πόντου πέτρας.*

(γ) *χάρις αἰθερία ἀνέπτα.*

(δ) *δέδοικά σ', οὐδὲν δεῖ παραμπίσχειν λόγους*

*μὴ μοί τι δράσης παῖδ' ἀνῆκεστον κακόν.*

(ε) *νόμοις τε χρῆσθαι μὴ πρὸς ἰσχύος χάριν.*

(ζ) *τί δρῶσα; μὲν γαμοῦσα καὶ προδοῦσα σε;*

(η) *οὐκ οἶδ' ἂν εἰ πείσαιμι.*

(θ) *κεῖνται δὲ νεκροὶ παῖς τε καὶ γέρων πατήρ*

*πέλας, ποθεινὴ δακρύοισι συμφορὰ.*

5. Where and from what present forms are these verbs made: *ὀφλεῖν*, *ἀνέπτα*, *γεγῶσαν*?

6. Write out, dividing into feet, the first three lines in 3 (β). Explain the anapaestic system.

7. Give briefly the story of Jason. For what reason did Medea come to Corinth? When and under what circumstances was the play performed? What other poet wrote a play on this subject? Explain *deus ex machina*.

# GREEK 6.

(February, 1874.)

ÆSCHYLUS, Seven against Thebes; SOPHOCLES, Electra.

I. Translate Sept. 287-303, 568-583; Electra 153-163, 907-919, 1126-1142.

II. What poems of the Epic Cycle treated of the Theban myth? In which did Æschylus find the materials for the Seven against Thebes? What was the story of Amphiarus; also its sequel (alluded to in *Electra*, 843 sqq.)? Compare the Homeric account of Agamemnon's death and Orestes' revenge with that adopted by the tragedians. Give the chief points of difference between Æschylus' treatment of the story in the *Chæphori* and Sophocles' in the *Electra*. How many and who were the daughters of Agamemnon, (a) according to Homer, (b) according to Sophocles?

III. Describe the metres (making schemes and marking arses) of Sept. 290, 291; Elec. 155, 247, 1246. Explain the final catalexis of iambic verse. What is the rhythmic value of a verse consisting of an iambic dipody, a cretic, and a brachycatalectic trochaic dimeter, e.g. Elec. 1407? What would Hermann call the verse  $\sim - - - \sim - \sim - -$ , and what is the correct theory of this verse? What is a paremiciac verse? Under what restrictions are anapæsts admitted into tragic senarii? Explain the terms *πρόλογος*, *ἐπεισόδιον*, *κόμμος*.

IV. Syntax of τὸν . . . ἅλόντα (Elec. 124); compare a similar construction in one of the above passages of the Sept. Tense of ἄραρεν (147). What epic reminiscences in 157? Correct Schneide- win's translation of 323, „da ich sonst nicht mehr lange leben würde.“ Remark on gender of τιμωρούμενοι (399), and on the use of the aorist in 668 and 1322. Three ways of writing and rendering 799. Why μή in 911? Comment on λελείμμεθον (950). Syntax of κτήσιν (960). Δύει (1005) = λυσιτελεῖ? what reason for doubting it? Explain tense of ἔκεισο (1134). Exact meaning of ἀτιμος (1214).

V. Constitute the reading of the following passages, giving reasons: —

*Electra* 198; MSS. as in text, Wakefield and Nauck transpose δόλος and ἔπος.

391; MSS. προσώπατ' ἐκφύγω, Dindorf προσωπάτω φύγω.

914; MSS. ἐλάνθανεν, Heath and others ἐλάνθαν' ἄν.

1201; τοῖς ἴσοις or τοῖσι σοῖς?

(June, 1874.)

ÆSCHYLUS, *Seven against Thebes*; SOPHOCLES, *Electra*;

EURIPIDES, *Medea*; ARISTOPHANES, *Frogs*.

1. Translate: —

Sept. 792-798.

*Electra* 539-545 (giving tense of παρῆιτο).

*Medea* 492-501 (reading in 500 μὲν τί, not μή τι).

*Frogs* 197-203, 840-843, 1198-1205.

2. *Medea* 341, φροντίδ'; dative or accusative? give your reasons. 735, μεθεῖς; what reasons (aside from MS. authority) for and against the variant μεθεῖ? Construction of ᾗ (886). Discuss the meaning of 944-5. Criticise the prevailing (Porsonian) doctrines of the tragic

usage in regard to (a) endings  $\eta$  and  $\epsilon$  of 2d sg. mid., (b) the forms  $\xi\acute{\upsilon}\nu$  and  $\sigma\acute{\upsilon}\nu$ .

Frogs 733, explain  $\phiαρμακοῖσιν$ . 741, give the usual Attic for "strike" in the various tenses. 970, tell what you can of Theramenes, and explain  $\acute{o}\nu\chi\acute{\iota}\omicron\varsigma\ \acute{\alpha}\lambda\lambda\grave{\alpha}\ \textit{K}\epsilon\acute{\iota}\omicron\varsigma$ .

3. Characterize Euripides briefly, and give the ground of the antipathy between him and Aristophanes. When was the *Medea* produced? What tragedian preceded Euripides in the treatment of this theme? Where is the earliest mention of *Medea* in Greek poetry? What poems developed the story further? What new trait did the tragedians introduce? Classify the Euripidean manuscripts. What is the earliest extant play of Aristophanes? Date of the *Frogs*: what recent events led to choice of subject?

4. What is the *Parabasis*? Describe its different parts with their metres. Show connection between the *Parabasis* and the original songs of the  $\kappa\acute{\omega}\mu\omicron\varsigma$ . What is irregular in the *Parabasis* of the *Frogs*? Where may dactyls and anapæsts stand in iambic trimeter of comedy? What are the metres of *Frogs* 209 and 396? What is dactylo-epitritic metre?

## L A T I N.

### PRESCRIBED LATIN.

FRESHMAN YEAR. — ASST. PROFS. EVERETT and SMITH.

Cicero (*De Senectute*). — Livy (Book IX.). — Horace (*Odes*). — Merivale's *History of the Romans*, Chapters 25–28, 30, 35, 36, 41. — *Extemporaneous Translation and Composition*.

*Seven hours in two weeks.*

### PRESCRIBED LATIN.

#### CICERO DE SENECTUTE.

Translate xi. 38. (*Adsum amicis . . . obrepant senectus*.)

Comment on the case of *viventi*, and illustrate by examples from Horace. What is the substance of Cato's answer to the complaint that old age withdraws men from active pursuits?

#### LIVY IX.

Translate xii. 1–4. (*Samnitibus . . . crederent Romanum*.)

Date of the events referred to. What were the two plans of the elder Pontius? Explain fully the construction *potuerint*.

#### ODES OF HORACE.

1. Translate: (a) I. xxiv. 13–20. (*Quid si . . . est nefas*.)

(b) III. vi. 33–44. (*Non his . . . abeunte curru.\**)

(c) IV. iii. 1–12. (*Quem tu . . . carmine nobilem*.)

\* *Ligo*, a hoe. *Fustes recisos*, fagots.



2. Comment on the uses of the Infinitive in I. xv. 27, I. xxvi. 3, III. viii. 26, III. xxix. 50, IV. ii. 59; give an equivalent prose expression for each. Supply the verb after *ut* (I. xiv. 3), and give the reason for its mood. Derivation of *facundus* (I. x. 1), *retorsum* (I. xxxiv. 3), *insulto* (III. iii. 41). Comment on the uses of the Future Active Participle in I. xxxv. 29, IV. ii. 3, IV. iii. 20; on the use of the Adjective *superstiti* (III. ix. 12); on the arrangement of words in III. i. 12, IV. iv. 31, 32; on the force of *male* (I. ix. 24, and I. xvii. 25). How far do *laborare* and *occupare* agree with or differ from their English derivatives in meaning?

3. Show how the metre helps you determine the meaning in II. xiv. 6, and III. xxiv. 58. Explain fully the metre of IV. vii.

4. Describe the customs alluded to in III. viii. 10, 11, and III. xxiv. 8. Describe the *cyathus* (I. xxix. 8). Explain very briefly, with dates, the historical allusions in III. vi. 34-36, and III. xiv. 18, 19. Explain the geographical references in III. iii. 46, 47, and III. xxix. 8; the mythological allusions in III. xi. 2, and IV. vi. 1, 2.

### LATIN COMPOSITION.

Not to be translated :—

Ab Saticula profectus Cornelius consul exercitum incaute in saltum cava valle pervium circaque insessum ab hoste induxit, nec prius quam recipi tuto signa non poterant, imminentem capiti hostem vidit. Dum id morae Samnitibus est, quoad totum in vallem infimam demitteret agmen, P. Decius tribunus militum conspicit unum editum in saltu collem, imminentem hostium castris, aditu arduum impedito agmini, expeditis haud difficilem. Itaque consuli territo animi "videsne tu" inquit, "A. Corneli, cacumen illud supra hostem? Arx illa est spei salutisque nostrae, si eam, quoniam caeci reliquere Samnites, inipigre capimus. Ne tu mihi plus quam unius legionis principes hastatosque dederis; cum quibus ubi evasero in summum, perge hinc omni liber metu teque et exercitum serva: neque enim moveri hostis subiectus nobis ad omnes ictus sine sua pernicie poterit. Nos deinde aut fortuna populi Romani aut nostra virtus expedit." — LIVY, VII. xxxiv.

Translate into Latin :—

In dismay Chirisophus summoned Xenophon from the rear, and as the latter came up and asked what had happened, "You can see," said he, "for yourself. Look at that hill." And Xenophon saw that the barbarians had occupied an eminence commanding the only road by which the Greeks could march down to the plain. But he also saw that the top of the mountain was above his own army, and that there was a way down from there to the hill where the enemy were. So he said to his colleague: \* "I will soon drive those fellows from their stronghold. Give me three hundred picked men, and with them I will march to the summit of the mountain. As soon as we get there, go forward without fear. The enemy will not stay long below us."

\* The quotation that follows must be translated into Indirect Discourse.

**ELECTIVES.****Latin 1. — ASST. PROF. GREENOUGH.**

*Literary Course.* Cicero (*Oratio in Verrem*; *De Amicitia*). — Terence (one play). — Horace (*Satires*).

*Two hours a week.* 89 *Sophomores*, 1 *Freshman*.

**Latin 2. — ASST. PROF. GREENOUGH.**

*Philosophical Course.* Seneca (*Selections*). — Cicero (*Tusculan Questions*, Book V.; *De Oratore*, Book II.). — Quintilian (*Book X*).

*Two hours a week.* 16 *Sophomores*, 3 *Freshmen*.

**Latin 3. — ASST. PROF. EVERETT.**

*History of the Fall of the Republic.* Velleius Paterculus, Book II. §§ 1–50. — Cicero's *Epistles* (*Selections*). — Caesar (*De Bello Civili*). — Lucan (*Extracts*).

*Two hours a week.* 1 *Junior*, 89 *Sophomores*, 1 *Freshman*.

**Latin 4. — PROF. LANE.**

*Writers of the Empire.* Juvenal. — Quintilian. — Tacitus.

*Three hours a week.* 9 *Seniors*, 46 *Juniors*.

**Latin 5. — PROF. LANE.**

*Writers of the Republic.* Plautus. — Cicero. — Lucretius. — Catullus. — *Inscriptions*.

*Three hours a week.* 44 *Seniors*, 84 *Juniors*, 8 *Sophomores*.

**Latin 6. — PROF. LANE.**

*History of the Empire.* Tacitus. — Suetonius. — Velleius Paterculus. — Seneca. — Juvenal. — Statius.

*Three hours a week.* 11 *Seniors*, 3 *Juniors*.

**LATIN 1.**

Translate *Eunuchus*, vv. 248–254 inclusive (at sight).

What of the forms: *siet*, *Heaut.* p. 129, v. 65; *faciundo*, *ib.* v. 78; *tuast* and *oti*, v. 75; *sicinet*, v. 166; *eccum*, v. 241; *ain*, v. 242; *scibam*, v. 309; *potis es*, v. 321; *sodes*, v. 459?

Translate *Laelius*, XXVI. 98. Explain the connection. Force of *omnino* here? Notice three effects produced by position of words in this passage. *Milites gloriosi*, allusion?

Horace, *Sat.* II. iii. 46–62. Explain (without translating) the connection and meaning.

Translate Horace, *Epistles*, I. ii. 46–59 (page 197) (at sight).

## LATIN 3.

## 1. Translate:—

Quo senatus consulto paene totius terrarum orbis imperium uni viro deferebatur; sed tamen idem hoc ante septennium in M. Antoni praetura decretum erat. Sed interdum persona ut exemplo nocet, ita invidiam auget aut levat: in Antonio homines aequo animo passi erant; raro enim invidetur eorum honoribus, quorum vis non timetur; contra in iis homines extraordinaria reformidant, qui ea suo arbitrio aut deposituri aut retenturi videntur et modum in voluntate habent. — VELLEIUS, II. xxxi. 2, 3.

How is the date of Caesar's birth affected by the question of *imperium extra ordinem*?

2. (a) Explain the family connection between Cato the Elder, the Gracchi, Scipio Africanus Minor and Aemilius Paullus.

(b) Give an important event in each of the years, 123, 118, 103, 98.

(c) Explain the lines:—

Exsilium, et carcer, Minturnarumque paludes  
Et mendicatus victa Carthagine panis.

## 3. Translate:—

(a) Quum decerneretur frequenti senatu, contra pugnante Pisone, ad pedes omnium singillatim accidente Clodio, ut consules populum cohortarentur ad rogationem accipiendam; homines ad xv Curioni nullum senatus consultum facienti assenserunt; ex altera parte facile cccc fuerunt.

(b) Pompeius, nostri amores, quod mihi summo dolori est, ipse se afflixit; neminem tenet voluntate; ne metu necesse sit iis uti, vereor. Ego autem neque pugno cum illa causa propter illam amicitiam, neque approbo, ne omnia improbem, quae antea gessi; utor via. Populi sensus maxime theatro et spectaculis perspectus est: nam gladiatoribus, quae dominus, quae advocati sibilis conscissi.

What is meant by *illa causa*?

(c) Ita sunt res nostrae; ut in secundis, fluxae, ut in adversis, bonae.

(d) Jecit quidam casus caput meum, quasi certaminis causa in medium contentionem dissensionemque civilem. Quo in discrimine non dicam quid acciderit, (multorum est enim et varia culpa; ) tantam dicam brevi, non mihi exercitum, sed duces defuisse. In quo ut iam sit in iis culpa, qui me non defenderunt, non minor est in iis, qui reliquerunt.

(e) Quid, si ne id quidem est exploratum, fore ut mihi liceat, (scribunt enim ad me amici eius, me illi nullo modo satisfacisse, quod in senatum non venerim; ) tamenne dubitemus, an ei nos etiam cum periculo venditemus, quicum coniuncti ne cum praemio quidem volumus esse?

4. Explain the expressions: *Quotus quisque est, qui possit?* Rogationem ex senatus consulto promulgare; *lusisti* verbum meum more Romano; de agro Campano in senatu refertur; senatus consulta falsa referentem; multa ὑποσώλεια.

5. Derivation of *instaurare*, *seditio*, *mansuetudo*.

6. Constructions of *proxime Pompeium sedebam*; *vetus est, ubi non sis*, qui fueris, non *esse* cur velis vivere; quantum *praesens* me adjuvare *potueris*, facile intelligo.

N. B. Of the following five historical questions choose *two* only.

7. Explain the lines : —

Carus erit Verri, qui Verrem tempore quo vult  
Accusare potest.

Dederat Campania febres  
Optandas, sed multae urbes et publica vota  
Vicerunt. Igitur Fortuna ipsius et Urbis  
Servatum victo caput abstulit.

Ridenda poemata malo  
Quam te, conspicuae divina Philippica famae,  
Volveris a prima quae proxima.

8. Give the principal events of the year 52 B.C.

9. Give the consuls in the year (a) of Pompey's birth; (b) 87 B.C.; (c) Sulla's death; (d) 65 B.C.; (e) Cicero's recall; (f) 50 B.C.; (g) Cicero's assassination.

10. Give the principal events in the life of Crassus.

11. When and how often was a dictator appointed between Zama and Actium? What distinguished men died at Rome just in time to avoid seeing the renewal of civil war? Give Cicero's list of possible alternatives for the State in its dealings with Caesar at the end of 50 B.C.

12. Translate : —

Quasi divinarem, tali in officio fore mihi aliquando expetendum studium tuum, sic, quum de tuis rebus gestis agebatur, inserviebam honori tuo. Dicam tamen vere: plus quam acceperas, reddidisti. Quis enim ad me non perscripsit, te non solum auctoritate orationis, sententia tua, quibus ego a tali viro contentus eram, sed etiam opera, consilio, domum veniendo, conveniendis meis, nullum onus officii cuiquam reliquum fecisse? Haec mihi ampliora multo sunt, quam illa ipsa, propter quae haec laborantur; insignia enim virtutis multi etiam sine virtute assecuti sunt, talium virorum tanta studia assequi sola virtus potest.

## LATIN 5.

I. Translate and explain : —

Nam **k** quidem in nullis uerbis utendum puto nisi quae significat, etiam ut sola ponatur. Hoc eo non omisi, quod quidam eam, quotiens a sequatur, necessariam credunt, cum sit **c** litera, quae ad omnis uocalis uim suam perferat.

What inferences may be drawn from the above as to the pronunciation of **c**? What is meant by **n** adulterinum?

Name some enclitics and proclitics. How do you accent *Maecenas*, *adhuc*, *Vergili*, *deinde*, and why? Accent *interue homines*: *famosus*: *famosi*: *uetus*: *iniustus*. Write *concludo*, *confero*, and *incensus* with Greek letters.

II. Translate : —

1. BA. Calet aqua: eamus hinc intro ut laues:

Nam ut in naui uecta's, credo timida's. SO. Aliquantum, soror:  
Semul hic nescio qui turbare coepit: decedamus hinc.

2. Adeon me fuisse fungum ut qui illi crederem?

Comment on *qui* and give the Greek equivalent.

8. Epiust Pistoclerus : ab eo haec sumpta. Mnesilochus Sinost Relictus. Ellum : non in busto Achilli, set in lecto adcubat. Bacchidem habet secum, ille olim ut habuit ignem qui signum daret.

Nunc ipsum exurit. Ego sum Vlixes, quoniam consilio haec gerunt.

4. [Of the *senes* = *vetulae minae*.]

Exoluere quanti fuere. omnis fructus  
Iam illis decedit.

5. Senex optume, quantumst in terra, sine me hoc exorare aps te.

6. Give Plautine phrases for

(a) Heaven [*di*] forefend ! Abuse one [i.e., by word]. Make game of one. By the way, or à propos.

(b) Really now [*ἀληθες* ;]. Get you gone ! How can you ask such a question ? [express in one word.] To resort to denial. In my humble opinion.

7. Point out and explain the peculiarities of prosody in —

(a) Fátéor :: Nempé concéptis uerbis :: etiam consultís quoque.

(b) Símulato me amáre :: Vtrum ego istuc iócon adsimulem an sério ?

(c) Óccidi :: Animus íám stoc dicto plús praesagitúr mali.

(d) Negótium ad me hoc áttinet aurárium.

(e) Vel út ducentos Phílippos reddat aúreos.

(f) I, stúltior es bárbáro Potício.

8. How does Plautus latinize *μῶν* ? *δραχμή* ? *Ἀλκμήνη* ? *Βελλεροφόντης* ? What form of the last word resembling Plautus's form is found in an inscription ?

9. Give the year of Plautus's death, and mention one or two great historical events of his lifetime.

III. Translate and explain the historical allusions : Cic. Brut. §§ 52 and 53.

IV. Translate Lucret. I. 215–232.

Explain *quicque in sua : quod nunc : reducit . . . reductum* : name the figure : case of *mare* ? why ?

What is the compound used by Lucretius of *dis-* and *iacio* ? make compounds with *re-* and *in* and *iacio*, and account for the quantity of the first syllable : with *inter* and *lego*. Give the Latin for *ἐπιστολή* : for *σκηνή* : the plural Nominative and Dative of *Pompeius*.

V. Translate Catull. XXII. 1–17.

Name the metre and give a scheme of it. Comment on the *uolumen* as here described. Give the birth-year of Cicero, Lucretius, Catullus. Mention any thing connecting Lucretius and Catullus : Cicero and Lucretius.

## HEBREW.\*

PROF. YOUNG.

Hahn's or Theile's Biblia Hebraica. — Conant's Gesenius's Grammar.

Three hours a week. 1 Senior.

\* Hebrew and Sanskrit are classed under this head for convenience, but were not counted for Honors in the Classics.

SANSKRIT.

ASST. PROF. GREENOUGH.

Monier Williams's Grammar. — Hitopadeṣa (Selections). — Bhagavad-gita (Selections).

Three hours a week. 1 Senior, 1 Junior.

CLASSICAL HONORS.\*

SECOND-YEAR HONORS.†

In a few of the Elective Courses, in addition to the ordinary divisions, divisions were also formed to give candidates for Second-Year Honors instruction in translation and composition.

GREEK TRANSLATION.

Translate: —

1. \*Ὡς φάτο. τὸν δ' οὔτι προσέφη λευκώλενος Ἥρη.  
 ἐν δ' ἔπεισ' Ὀκεανῷ λαμπρὸν φάος ἡελίοιο,  
 ἔλκον νύκτα μέλαιναν ἐπὶ ζεῖδωρον ἄρουρα.  
 Τρῶσιν μὲν ῥ' ἀέκουσιν ἔδν φάος· αὐτὰρ Ἀχαιοὶς  
 ἀσπασίη, τριῶλυστος, ἐπήλυθε νύξ ἐρεβεννή.  
 Τρώων αὐτ' ἀγορὴν ποιήσατο φαίδιμος Ἔκτωρ,  
 νόσφι νεῶν ἀγαγὼν ποταμῷ ἐπὶ δινήμετι,  
 ἐν καθαρῷ, ὅθι δὴ νεκύων διεφαίνετο χάρος.  
 ἐξ ἔππων δ' ἀποβάντες ἐπὶ χθόνα μῦθον ἄκουον,  
 τὸν ῥ' Ἔκτωρ ἀγόρευε Διὶ φίλος. ἐν δ' ἄρα χειρὶ  
 ἔγχος ἔχ' ἐνδεκάπηχυ. πάρουθε δὲ λάμπετο δουρὸς  
 αἰχμὴ χαλκείη, περὶ δὲ χρύσεος θέε πόρκης.  
 τῷ, ὅγ' ἐρείσάμενος ἔπεα Τρώεσσι μετήνυδα.  
 HOMER, Iliad 8. 484-496.

2. T. ὄνομα μὲν ἡμῖν Τεῦκρος, ὁ δὲ φύσας πατὴρ  
 Τελαμῶν, Σαλαμῖς δὲ πατρίς ἣ θρέψασά με.  
 ΕΛ. τί δῆτα Νεῖλου τοῦσδ' ἐπιστρέφει γυῖας;  
 T. φυγὰς πατρώας ἐξελήλαμαι χθονός.  
 ΕΛ. τλημῶν ἂν εἴης· τίς δέ σ' ἐκβάλλει πάτρας;  
 T. Τελαμῶν ὁ φύσας· τίν' ἂν ἔχῃς μᾶλλον φίλον;  
 ΕΛ. ἐκ τοῦ; τὸ γάρ τοι πρᾶγμα συμφορὰν ἔχει.  
 T. Ἀῖας μ' ἀδελφὸς ὤλεσ' ἐν Τροίᾳ θανών.  
 ΕΛ. πῶς; οὔτι που σῶ φασγάνῳ βίον στερεῖς;  
 T. οἰκείον αὐτὸν ὤλεσ' ἄλμ' ἐπὶ ξίφος.  
 ΕΛ. μανέντ'; ἐπεὶ τίς σωφρονῶν τλαίη τάδ' ἂν;  
 T. τὸν Πηλέως τίν' οἶσθ' Ἀχιλλέα γόνον;  
 ΕΛ. μνηστὴρ ποθ' Ἑλένης ἦλθεν, ὥς ἀκούομεν.  
 T. θανὼν ὁδ' ὅπλων ἔριν ἔθηκε συμμάχοις.

\* The Examinations for Classical Honors were all held in May.

† For the General Paper, see page 188.

- ΕΛ. καὶ δὴ τί τοῦτ' Αἴαντι γίγνεται κακόν ;  
 Τ. ἄλλου λαβόντος ὄπλ' ἀπηλλάχθη βίον.  
 ΕΛ. σὺ τοῖς ἐκείνου δῆτα πῆμασιν νοσεῖς ;  
 Τ. ὀθούνεκ' αὐτῷ γ' οὐ ξυνωλόμην ὁμοῦ. — EUR. Hel. 87-104.

3. Τύραννοι δὲ ὅσοι ἦσαν ἐν ταῖς Ἑλληνικαῖς πόλεσι, τὸ ἐφ' ἑαυτῶν μόνον προορώμενοι ἔς τε τὸ σῶμα καὶ ἐς τὸ τὸν ἴδιον οἶκον αὔξειν, δι' ἀσφαλείας ὅσον ἐδύναντο μάλιστα τὰς πόλεις ᾤκουν, ἐπράχθη τε ἀπ' αὐτῶν οὐδὲν ἔργον ἀξιόλογον, εἰ μὴ εἴ τι πρὸς περιοίκους τοὺς αὐτῶν ἐκάστοις. οἱ γὰρ ἐν Σικελίᾳ ἐπὶ πλείστον ἐχώρησαν δυνάμει. οὕτω πανταχόθεν ἡ Ἑλλὰς ἐπὶ πολὺν χρόνον κατεῖχeto μήτε κοινῇ φανερόν μηδὲν κατεργάζεσθαι, κατὰ πόλεις τε ἀτολμοτέρα εἶναι. — THUC. I. 17.

4. Παῖς μέγας μικρὸν ἔχων χιτῶνα παῖδα μικρὸν μέγαν ἔχοντα χιτῶνα ἐκδύσας αὐτὸν τὸν μὲν ἑαυτοῦ ἐκείνου ἡμφίεσε, τὸν δ' ἐκείνου αὐτὸς ἐνέδν. ἐγὼ οὖν τοῦτοις δικάζων ἔγνω βέλτιον εἶναι ἀμφοτέροις τὸν ἀρμόττοντα ἐκάτερον χιτῶνα ἔχειν. ἐν δὲ τούτῳ με ἔπαισεν ὁ διδάσκαλος, λέξας, ὅτι ὅποτε μὲν τοῦ ἀρμόττοντος εἴην κριτῆς, οὕτω δέοι ποιεῖν, ὅποτε δὲ κρίναι δέοι, πότερου ὁ χιτῶν εἴη, τοῦτ' ἔφη σκεππένον εἶναι, τίς κτήσις δικαία ἐστί, πότερα τὸν βία ἀφελόμενον ἔχειν ἢ τὸν ποιησάμενον ἢ πριάμενον κεκτησθαι· ἐπεὶ δ', ἔφη, τὸ μὲν νόμιμον δίκαιον εἶναι, τὸ δὲ ἄνομον βίαιον, σὺν τῷ νόμῳ ἐκέλευεν αἰετὶ τὸν δικαστὴν τὴν ψήφον τίθεσθαι.

XEN. Cyrop. I. iii. 17.

5. 'Ο μὲν οὖν παρῶν καιρὸς, ὃ ἄνδρες Ἀθηναῖοι, εἴπερ ποτὲ, πολλῆς φροντίδος καὶ βουλῆς δεῖται· ἐγὼ δὲ οὐχ ὃ τι χρὴ περὶ τῶν παρόντων συμβουλευσάι χαλεπώτατον ἡγοῦμαι, ἀλλ' ἐκεῖν' ἀπορῶ, τίνα χρὴ τρόπον, ὃ ἄνδρες Ἀθηναῖοι, πρὸς ὑμᾶς περὶ αὐτῶν εἰπεῖν. πέπεισμαι γὰρ ἐξ ὧν παρῶν καὶ ἀκούων σύνοιδα τὰ πλείω τῶν πραγμάτων ὑμᾶς ἐκπεφενγῆναι τῷ μὴ βούλεσθαι τὰ δέοντα ποιεῖν, οὐ τῷ μὴ συνιέναι. ἀξιώ δὲ ὑμᾶς, ἂν μετὰ παρρησίας ποιῶμαι τοὺς λόγους, ὑπομένειν, τοῦτο θεωροῦντας εἰ τάληθ' ἴδωμεν καὶ διὰ τοῦτο, ἵνα τὰ λοιπὰ βελτίω γένηται· ὁράτε γὰρ ὡς ἐκ τοῦ πρὸς χάριν δημηγορεῖν ἐνίοις εἰς πᾶν προελήλυθε μοχθηρίας τὰ παρόντα.

DEM. 3. 8.

## GREEK COMPOSITION.

Translate into Greek : —

1. I do not wonder that Philip, always in the field, always in movement, doing every thing for himself, never letting slip an opportunity — prevails over you, who merely talk, inquire, and vote, without action. But what I do wonder at is that you, Athenians — who in former days contended for Grecian freedom against the Lacedæmonians — who scorning unjust aggrandizement for yourselves fought in person and expended your property to protect the rights of other Greeks — that *you* now shrink from serving in person and paying money for the defence of your own possessions.

2. But when the Peloponnesians who were in Attica were informed of the seizure of Pylos, they started to withdraw homeward in haste, from the notion of the Lacedæmonians and their king Agis that the

district around Pylos belonged to them; and at the same time as they had made their invasion early they were short of provision for the greater part [of their troops], and the additional occurrence of a heavier storm than accorded with the actual season distressed the army.

LATIN TRANSLATION.

Translate: —

1. Ego quia non rediit filius quae cōgito!  
 Quibus nūc sollicitor rēbus! ne aut ille alserit  
 Aut ūspiam ceciderit aut crus frēgerit  
 Aliquī. uah, quemquamne hōminem in animum instītuere  
 Parāre quod sit cārius quam ipse est sibi!  
 Atque ēx me hic natus nōn est, sed ex fratrē meo.  
 Dissīmili is studiost iam īnde ab adulescētia.  
 Ego hānc clementem ūltam urbanam atque otium  
 Secūtus sum et, quod fōrtunatum istī putant,  
 Vxorē numquam habui. ille contra haec omnia:  
 Ruri āgere uitam: sēmp̄r parce ac dūrīter  
 Se habēre: uxorem dūxit: nati filii  
 Duo: īnde ego hunc maiōrem adoptaui mihi:  
 Edūxi a paruolo, hābui, amaui pro meo;  
 In eo me oblecto: solum id est carum mihi.

TERENCE, Adelphi, 85-49.

2. De sepulcris autem nihil est apud Solonem amplius quam 'ne quis ea dealeat neve alienum inferat,' poenaeque est, 'si quis bustum' — nam id puto appellari *τύμβον* — 'aut monimentum' inquit 'aut columnam violarit, deiecerit, frēgerit.' Sed post aliquanto propter has amplitudines sepulcrorum, quas in Ceramico vidimus, lege sanctum est 'ne quis sepulcrum faceret operosius quam quod decem homines effecerint triduo'; neque id opere tectorio exornari nec hermas quos vocant licebat inponi, nec de mortui laude nisi in publicis sepulturis nec ab alio, nisi qui publice ad eam rem constitutus esset, dici licebat. Sublata etiam erat celebritas virorum ac mulierum, quo lamentatio minueretur; auget enim luctum concursus hominum. Quocirca Pittacus omnino accedere quemquam vetat in funus alienorum. Sed ait rursus idem Demetrius increbuisse eam funerum sepulcrorumque magnificentiam, quae nunc fere Romae est: quam consuetudinem lege minuit ipse.

CICERO, De Legg. II. 26, 64.

3. Scribendi recte sapere est et principium et fons:  
 Rem tibi Socraticae poterunt ostendere chartae,  
 Verbaque provisam rem non invita sequentur.  
 Qui didicit patriae quid debeat et quid amicis,  
 Quo sit amore parens, quo frater amandus et hospes,  
 Quod sit conscripti, quod iudicis officium, quae  
 Partes in bellum missi ducis, ille profecto



Reddere personae scit convenientia cuique.  
 Respicere exemplar vitae morumque iubebo  
 Doctum imitatorem et vivas hinc ducere voces.  
 Interdum speciosa locis morataque recte  
 Fabula, nullius veneris, sine pondere et arte,  
 Valdius oblectat populum meliusque moratur,  
 Quam versus inopes rerum nugaeque canorae.

HORACE, *Ars Poetica*, 309-322.

4. Tum legibus condendis opera dabatur; ingentique hominum expectatione propositis decem tabulis, populum ad contionem advocaverunt et, quod bonum, faustum felixque rei publicae, ipsis liberisque eorum esset, ire et legere leges propositas iussere. Se, quantum decem hominum ingeniis provideri potuerit, omnibus, summis infimisque, iura aequasse; plus pollere multorum ingenia consiliaque. Versarent in animis secum unamquamque rem, agitant deinde sermonibus atque in medium, quid in quaque re plus minusue esset, conferrent. Eas leges habiturum populum Romanum, quas consensus omnium non iussisse latas magis quam tulisse videri posset. Cum ad rumores hominum de unoquoque legum capite editos satis correctae viderentur, centuriatis comitiis decem tabularum leges perlatae sunt, quae nunc quoque, in hoc immenso aliarum super alias acervatarum legum cumulo, fons omnis publici privatiue est iuris.

LIVY, III 84.

### LATIN COMPOSITION.

Translate freely into Latin Prose: —

Atalanta, who was exceeding fleet, contended with Hippomenes in the course, on condition that if Hippomenes won he should espouse her, or forfeit his life if he lost. The match was very unequal, for Atalanta had conquered numbers to their destruction. Hippomenes therefore had recourse to stratagem. He procured three golden apples and purposely carried them with him. They started: Atalanta outstripped him soon; then Hippomenes bowled one of his apples before her across the course in order not only to make her stoop, but to draw her out of the path. She, prompted by female curiosity and the beauty of the golden fruit, starts from the course to take up the apple. Hippomenes in the mean time holds on his way and steps before her; but she by her natural swiftness soon fetches up her lost ground and leaves him again behind. Hippomenes, however, by rightly timing his second and third throw, at length won the race, not by his swiftness but by his cunning.

BACON, *Wisdom of the Ancients*.

FINAL HONORS.

GREEK TRANSLATION.

Translate : —

1. ΘΗ. εἰ δ' ἐνθάδ' ἦδὺ τῷ ξένῳ μέμνεις, σέ νιν  
τάξω φυλάσσειν· εἰ δ' ἐμοῦ στείχειν μέτα  
τόδ' ἦδὺ, τούτων, Οἰδίπους, δίδωμί σοι  
κρίναντι χρῆσθαι· τῇδε γὰρ ξυνοίσομαι.  
ΟΙ. ὦ Ζεῦ, δίδοις τοῖσι τοιούτοισιν εὖ.  
ΘΗ. τί δῆτα χρήσεις; ἡ δόμους στείχειν ἐμούς;  
ΟΙ. εἴ μοι θέμις γ' ἦν. ἀλλ' ὁ χώρος ἐστ' ὅδε,  
ΘΗ. ἐν ᾧ τί πράξεις; οὐ γὰρ ἀντιστήσομαι.  
ΟΙ. ἐν ᾧ κρατήσω τῶν ἔμ' ἐκβεβληκότων.  
ΘΗ. μέγ' ἂν λέγοις δώρημα τῆς συνουσίας.  
ΟΙ. εἰ σοί γ' ἄπερ φῆς ἐμμενεί τελοῦντί μοι.  
ΘΗ. Θάρσει τὸ τοῦδέ γ' ἀνδρός· οὐ σε μὴ προδῶ.  
ΟΙ. οὗτοι σ' ὑφ' ὄρκου γ' ὥς κακὸν πιστώσομαι.  
ΘΗ. οὐκουν πέρα γ' ἂν οὐδὲν ἢ λόγῳ φέροις.  
ΟΙ. πῶς οὖν ποιήσεις; ΘΗ. τοῦ μάλιστ' ὄκνος σ' ἔχει;  
ΟΙ. ἥξουσιν ἄνδρες ΘΗ. ἀλλὰ τοῖσδ' ἔσται μέλον  
ΟΙ. ὅρα με λείπων ΘΗ. μὴ δίδασχ' ἃ χρὴ με δρᾶν.  
ΟΙ. ὀκνοῦντ' ἀνάγκη. ΘΗ. τοῦμόν οὐκ ὀκνεῖ κέαρ.

SOPHOCLES, *Ced. Col.* 638-655.

2. ΧΘ. ἀνὴρ νικᾷ τοῖσι λόγοισιν, καὶ τὸν δῆμον μεταπίθει  
περὶ τῶν σπονδῶν. ἀλλ' ἀποδύντες τοῖς ἀναπαίστοις ἐπίωμεν.  
ἐξ οὗ γε χοροῖσιν ἐφέστηκεν τρυγικοῖς ὁ διδάσκαλος ἡμῶν,  
οὐπω παρέβη πρὸς τὸ θέατρον λέξων ὥς δεξιὸς ἐστίν.  
διαβαλλόμενος δ' ὑπὸ τῶν ἐχθρῶν ἐν Ἀθηναίοις ταχυβούλοις,  
ὥς κωμῶδεϊ τὴν πόλιν ἡμῶν καὶ τὸν δῆμον καθυβρίζει,  
ἀποκρίνεσθαι δέεται νυνὶ πρὸς Ἀθηναίους μεταβούλους.  
φησὶν δ' εἶναι πολλῶν ἀγαθῶν αἴτιος ὑμῖν ὁ ποιητής,  
παύσας ὑμᾶς ξενικοῖσι λόγοις μὴ λίαν ἐξαπατᾶσθαι,  
μῆθ' ἡδεσθαι θωπευομένους, μῆθ' εἶναι χαυνοπολίτας.  
πρότερον δ' ὑμᾶς ἀπὸ τῶν πόλεων οἱ πρέσβεις ἐξαπατῶντες  
πρῶτον μὲν ἰοστεφάνους ἐκάλουν· κάπειδ' αὖ τοῦτο τις εἶποι,  
εὐθύς διὰ τοὺς στεφάνους ἐπ' ἄκρων τῶν πυγιδίων ἐκάθησθε.

ARISTOPHANES, *Acharn.* 626-688.

3. Ἡμεῖς δὲ νῦν καὶ ἀδικούμενοι τὸν πόλεμον ἐγείρομεν καὶ ἱκανὰ ἔχον-  
τες ἐγκλήματα, καὶ ὅταν ἀμυνώμεθα Ἀθηναίους, κατατησόμεθα αὐτὸν ἐν  
καιρῷ. κατὰ πολλὰ δὲ ἡμᾶς εἰκὸς ἐπικρατῆσαι, πρῶτον μὲν πλήθει προὔχον-  
τας καὶ ἐμπειρία πολέμικῃ, ἔπειτα ὁμοίως πάντας ἐς τὰ παραγελλόμενα  
ιόντας. ναυτικὸν τε, ᾧ ἴσχυουσιν, ἀπὸ τῆς ὑπαρχούσης τε ἐκάστοις οὐσίας  
ἐξαρτυσόμεθα καὶ ἀπὸ τῶν ἐν Δελφοῖς καὶ Ὀλυμπίᾳ χρημάτων· δάνεισμα  
γὰρ ποιησάμενοι ὑπολαβεῖν οἰοί τ' ἐσμέν μισθῷ μείζονι τοὺς ξένους αὐτῶν  
ναυβάτας. ὦντή γὰρ Ἀθηναίων ἡ δύναμις μᾶλλον ἢ οἰκεία· ἡ δὲ ἡμετέρα  
ἦσσαν ἂν τοῦτο πάθοι, τοῖς σώμασι τὸ πλέον ἰσχύουσα ἢ τοῖς χρήμασιν.

THUCYDIDES, I. 121.

4. ΣΩ. Δεινὸν γὰρ που, ὦ Φαίδρε, τοῦτ' ἔχει γραφή, καὶ ὡς ἀληθῶς ὅμοιον ζωγραφία. καὶ γὰρ τὰ ἐκείνης ἔκγονα ἔστηκε μὲν ὡς ζῶντα, εἴαν δ' ἀνὴρ τι, σεμνῶς πάνυ σιγᾷ. ταῦτόν δὲ καὶ οἱ λόγοι. δόξαις μὲν ἂν ὡς τι φρονούντας αὐτοὺς λέγειν, εἴαν δὲ τι ἔρη τῶν λεγομένων βουλόμενος μαθεῖν, ἐν τι σημαίνει μόνον ταῦτόν αἰεῖ. ὅταν δὲ ἀπαξ γραφῇ, κυλινδρεῖται μὲν πανταχοῦ πᾶς λόγος ὁμοίως παρὰ τοῖς ἐπαίουσιν, ὥς δ' αὐτὼς παρ' οἷς οὐδὲν προσήκει, καὶ οὐκ ἐπίσταται λέγειν οἷς δεῖ τε καὶ μή. πλημμελούμενος δὲ καὶ οὐκ ἐν δίκῃ λαιδορηθεὶς τοῦ πατρὸς αἰεῖ δέεται βοηθοῦ· αὐτὸς γὰρ οὔτ' ἀμύνασθαι οὔτε βοηθῆσαι δυνατὸς αὐτῷ.

PLATO, *Phædrus*, 275 D.

Πολλὰ δε καὶ δεινὰ κατηγορεῖν ἔχων ἔτι πρὸς τούτοις ἕτερα, ὦ ἄνδρες Ἀθηναῖοι, ἐξ ὧν οὐκ ἔσθ' ὅστις ἂν οὐκ εἰκότως μισήσειεν αὐτόν, βούλομαι, πρὸ πάντων ὧν μέλλω λέγειν, μνημονεύοντας ὑμῶν οἰδ' ὅτι τοὺς πολλοὺς ὑπομῆσαι τίνα τάξιν ἑαυτὸν ἔταξεν Αἰσχίνης ἐν τῇ πολιτείᾳ τὸ πρῶτον καὶ τίνας λόγους κατὰ τοῦ Φιλίππου δημηγορεῖν ᾤετο δεῖν, ὡς εἰδῆθ' ὅτι τοῖς ὑφ' ἑαυτοῦ πεπραγμένοις καὶ δεδημηγορημένοις ἐν ἀρχῇ μάλιστα ἐξέλεγχθήσεται δῶρα ἔχων.

DEMOSTHENES, 19. 9.

## GREEK COMPOSITION.

Translate :—

1. The brave men, living and dead, who struggled here, have consecrated it [this field] far above our poor power to add or detract. The world will little note, nor long remember, what we say here; but it can never forget what they did here. It is rather for us to be here dedicated to the great task remaining before us: that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, for the people, shall not perish from the earth. — From MR. LINCOLN'S GETTYSBURG ADDRESS.

2. First, then, one must apprehend the truth about the nature of the soul, both divine and human, by observing experiences and actions; and the beginning of our demonstration is as follows :—

Every soul is immortal, for the ever-moving is immortal; but that which moves another thing and is moved by another thing, when it finds cessation of motion, finds cessation of life. Only, then, that which moves itself, whereas it does not quit itself, never stops being moved; but also all other objects which are moved have this as the spring and beginning of motion.

## LATIN TRANSLATION.

Translate :—

- Excita cum tremulis anus attulit artubus lumen,  
Talia commemorat lacrimans, exterrita somno:  
"Eurudica prognata, pater quam noster amavit,  
Vires uitaeque corpus meum nunc deserit omne.  
Nain me uisus homo pulcher per amoena salicula  
Et ripas raptare locosque novos: ita sola

Postilla, germana soror, errare uidebar  
 Tardaque uestigare et quaerere te neque posse  
 Corde capessere : semita nulla pedem stabilibat.  
 Exin compellare pater me uoce uidetur  
 His uerbis : ' O gnata, tibi sunt ante ferendae  
 Aerumnae, post ex fluuio fortuna resistet.'  
 Haec ecfatus pater, germana, repente recessit  
 Nec sese dedit in conspectum corde cupitus,  
 Quamquam multa manus ad caeli caerula templa  
 Tendebar lacrumans et blanda uoce uocabam.  
 Vix aegro cum corde meo me somnus reliquit."

ENNIUS, Ann. I. 34.

2. Iam illa perfugia, quae sumunt sibi ad excusationem, quo facilius otio perfruantur, certe minime sunt audienda ; cum ita dicunt, accedere ad rem publicam plerumque homines nulla re bona dignos, cum quibus comparari sordidum, configere autem, multitudine praesertim incitata, miserum et periculosum sit. Quam ob rem neque sapientis esse accipere habenas, cum insanos atque indomitos inpetus volgi cohibere non possit : neque liberi, cum inpuris atque inmanibus aduersariis decertantem, vel contumeliarum verbera subire, vel exceptare sapienti non ferendas iniurias : proinde quasi bonis et fortibus et magno animo praeditis ulla sit ad rem publicam adeundi causa iustior quam ne pareant improbis neve ab isdem lacerari rem publicam patiantur, cum ipsi auxilium ferre, si cupiant, non queant.

Illa autem exceptio cui probari tandem potest, quod negant, sapientem suscepturum ullum rei publicae partem, extra quam si eum tempus et necessitas coegerit ? Quasi vero maior cuiquam necessitas accedere possit, quam accidit nobis, in qua quid facere potuissem, nisi tum consul fuissem ? Consul autem esse qui potui, nisi eum vitae cursum tenuissem a pueritia, per quem equestri loco natus pervenirem ad honorem amplissimum ? — CICERO, De Repub. I. v. vi.

3. Cum primum pavido custos mihi purpura cessit,  
 Bullaque succinctis Laribus donata pependit ;  
 Cum blandi comites, totaque inpune Subura  
 Permisit sparsisse oculos iam candidus umbo ;  
 Cumque iter ambiguum est, et vitae nescius error  
 Diducit trepidas ramosa in compita mentes,  
 Me tibi supposui : teneros tu suscipis annos  
 Socratico, Cornute, sinu ; tum fallere sollers  
 Adposita intortos extendit regula mores,  
 Et premitur ratione animus, vincique laborat,  
 Artificemque tuo ducit sub pollice vultum.  
 Tecum etenim longos memini consumere soles,  
 Et tecum primas epulis decerpere noctes :  
 Unum opus, et requiem pariter disponimus ambo,  
 Atque verecunda laxamus seria mensa.  
 Non equidem hoc dubites, amborum foedere certo  
 Consentire dies et ab uno sidere duci :  
 Nostra vel aequali suspendit tempora Libra  
 Parca tenax veri, seu nata fidelibus hora  
 Dividit in Geminos concordia fata duorum,  
 Saturnumque gravem nostro Iove frangimus una :  
 Nescio quod, certe est, quod me tibi temperat astrum.

PERSIUS, V. 30-51.

4. Plutarchus secundo librorum, quos de Homero composuit, imperfecte atque praepostere atque inscite synlogismo esse usum Epicurum dicit uerbaque ipsa Epicuri ponit: 'Ο θάνατος οὐδὲν πρὸς ἡμᾶς· τὸ γὰρ διαλυθὲν ἀναισθητεῖ· τὸ δὲ ἀναισθητοῦν οὐδὲν πρὸς ἡμᾶς. "Nam praetermisit," inquit, "quod in prima parte sumere debuit, τὸν θάνατον εἶναι ψυχῆς καὶ σώματος διάλυσιν, tum deinde eodem ipso, quod omiserat, quasi posito concessoque ad confirmandum aliud utitur. Progredi autem hic," inquit, "synlogismus, nisi illo prius posito, non potest."

Vere hoc quidem Plutarchus de forma atque ordine synlogismi scripsit. Nam [si], sicut in disciplinis traditur, ita colligere et ratiocinari uelis, sic dici oportet: "ὁ θάνατος ψυχῆς καὶ σώματος διάλυσιν· τὸ δὲ διαλυθὲν ἀναισθητεῖ· τὸ δὲ ἀναισθητοῦν οὐδὲν πρὸς ἡμᾶς." Sed Epicurus, cuiusmodi homost, non inscitia uidetur partem istam synlogismi praetermisisse. Neque id ei negotium fuit, synlogismum tamquam in scholis philosophorum cum numeris omnibus et cum suis finibus dicere. — GELLIUS, Noctt. Att. II. viii.

### LATIN COMPOSITION.

Translate freely into Latin Prose:—

Æschines, a famous orator of antiquity, had pleaded at Athens in a great cause against Demosthenes, but having lost it retired to Rhodes. Eloquence was then the quality most admired among men; and the magistrates of that place, having heard he had a copy of the speech of Demosthenes, desired him to repeat both their pleadings. After his own he recited also the oration of his antagonist. The people expressed their admiration of both, but more of that of Demosthenes. If you are, said he, thus touched with hearing only what that great orator said, how would you have been affected had you seen him speak? For he who hears Demosthenes only loses much the better part of the oration. Certain it is that they who speak gracefully are very lamely represented in having their speeches read or repeated by unskilful people; for there is something native to each man, so inherent to his thoughts and sentiments, which it is hardly possible for another to give a true idea of.

### GENERAL PAPER.

Candidates for Final Honors are required to answer *ten* questions, of which at least five must be taken from Division A.

Candidates for Second-Year Honors are required to answer *eight* questions taken at will from the paper.

#### A.

- Qui materiem rerum esse putarunt  
Ignem atque ex igni summam consistere solo.  
Et qui principium gignundis aëra rebus  
Constituere, aut humorem quicumque putarunt.

What philosophers are respectively alluded to here, and how far is Lucretius justified in classing them together?

- Discuss Socrates as he appears in Xenophon, and in the various classes of Platonic writings; point out any parts of the latter that you consider distinctly veracious, and any distinctly romantic.

3. Describe Plato's doctrine of ideas, and show how it is an attempt to reconcile the conflicting theories of earlier schools. How does it recur in the speculations of the middle ages?

4. C. Fabricius audivit esse quendam Athenis qui se sapientem esse profiteretur, eumque dicere omnia quae faceremus ad voluptatem esse referenda. — CIC. Cat. Maj. § 13.

Who is here alluded to? Whence did he borrow his *physical* doctrines, and how is the above *ethical* theory connected with earlier *metaphysical* views? How does it correspond with any views ascribed to Socrates?

5. Discuss the titles βασιλεύς and rex in their use at different periods at Mycenæ, Athens, Rome, and Constantinople.

6. Describe the gradual weakening of the conservative element in the Athenian constitution from Solon to Demosthenes.

7. Give an account of the Licinian Laws, and the struggle that ended in their adoption.

8. Connect the lives of Æschylus (contemporary with Marathon) and Theophrastus (contemporary with Arbela) by the lives of not more than six distinguished Greeks, who might have transmitted personal traditions.

9. Connect in the same way the lives of Ennius (contemporary with Zama) and Horace (contemporary with Actium) by not more than six distinguished Romans.

10. Discuss the various changes in the construction and representation of Attic tragedies introduced by Æschylus, Sophocles, and Euripides. Give also your views of the causes of the differences between the Greek and the modern drama.

11. Explain the terms θυμέλη, περιάκτος, πνίγος, Διονύσια τὰ ἐν ᾅστει, γέρανος, ἐπίρρημα, χορόν διδόναι, οὐδὲν πρὸς Διόνυσον.

12. Translate: —

(a) εἰπέ τις, Ἡράκλειτε, τὸν μόρον, ἐς δέ με δάκρυ  
ἦγαγεν, ἐμνήσθην δ' ὅσσάκις ἀμφοτέροι  
ἦλιον ἐν λείσχη κατεδύσαμεν· ἀλλὰ σὺ μὲν που,  
ξείν' Ἀλικαρνησεύ, τετράπαλαι σποδιή·  
αἱ δὲ τεαὶ ζῶουσιν ἀηδόνες, ἦσιν ὁ πάντων  
ἀρπακτὴς Αἰδὴς οὐκ ἐπὶ χεῖρα βαλεῖ. — CALLIMACHUS.

(β) ὁδμή μ' ἐς φρένας ἦλθε κραταιρίνοιο χελώνης  
ἐφομένης ἐν χαλκῷ ἄμ' ἀρνείοισι κρέεσσιν,  
ἢ χαλκὸς μὲν ὑπέστρωται, χαλκὸν δ' ἐπιέσται.

ORAC. apud Her. I. 47.

13. Explain the origin of the peculiar idioms in the following: —

(a) οἶσθ' ὡς ποίησον; — SOPH. O. T. 543.

(β) ἐμοὶ μὲν γὰρ θαυμαστῶς δοκεῖ, ὧ Ἀγάθων, ὡς ἀνάγκη εἶναι.

PLATO, Symp. 200.

- (γ) οὗτος γὰρ ἄρχει καὶ θεῶν ὅπως θέλει  
κάμου γε· πῶς δ' οὐ χἀτέρας οἴας γ' ἐμοῦ ;  
SOPH. Trach. 443-44.

- (δ) τόδε γε μὴν, ὥς οἶμαι περὶ αὐτοῦ ἀναγκαιότατον εἶναι λέγειν.  
PLATO, Phileb. 20.

14. Restore digamma to the following Homeric lines, making needful changes : —

οὐκ ἔστ' οὐδὲ ἔοικε τεδὸν ἔπος ἀρνήσασθαι.  
πολλῶν δ' ἀνθρώπων ἴδεν ἄστεα καὶ νόον ἔγνω.  
ξείνος δ' αὐτ' ἐμός ἐστιν· ἕκαστος δ' ἔμμορε τιμῆς.  
ὅππότερ' ἂν ἡβήσῃ τε καὶ ἥς ἰμείρεται αἴης.  
φαιήκων οἱ ἄριστοι, ἐπεὶ τέροντ' ἐπέεσσιν.  
ὥς εἰπὼν ὤτρυνε μένος καὶ θυμὸν ἐκάστου.  
ἤλυθον εἰκοστῷ ἔτει ἐς πατρίδα γαίαν.

15. Compare *centum* and ἐκατόν, *sex* and ἑξ (Feξ in inscriptions). *equus* and ἵππος, *suus* and ὅς (εὐός), *stelerant* and ἔστασαν. Account for the metrical irregularity in such Homeric phrases as ἀπὸ ἑο κάββαλεν νίον and ἐλάζετο θυγατέρα ἦν. What correspond in cognate Latin words to Greek χ, φ, θ, initial and medial? Illustrate by examples.

16. Explain the successive modes of transliteration of Greek into Latin as illustrated in the following Greek words : —

Πύρρος, Ἐκάβη, Ὀδυσσεύς, ζώνη, τραπέζιτης, Εὐβουλίδης, θρίαμβος, τρυπάνη, κραυγὰ, κόθορνος.

17. Treat the etymology of these English and French words : — *priest*, *quinsy*, *savage*, *parish*, *wig*, *dean*, *diamond*, *cynosure*, *spice*, *to pay*; *étoile*, *guêpe*, *feu*, *devoir*, *Vendredi*; show the identity of *tear* with French *larme*; (*any twelve*).

## B.

18. Narrate (with the dates) the causes of the establishment and fall of the hegemony of Athens, Sparta, and Thebes.

19. Describe the mutual relations of the Greeks and Romans before B.C. 200.

20. Give the general boundaries of the Roman dominion in the years 200 B.C., 100 B.C., 100 A.D., and 200 A.D.

21. Compare the constitutional changes of Sulla with those of Augustus.

22. Give a brief account of the life, character, and works of Aristotle, Euripides, Isocrates, Ovid, Tacitus, Terence (*any four*).

23. Give the geographical positions of the following places, and the historical events connected with them (with the date of each) : —

Sardis, Himera, Potidæa, Delium, Sentinum, Asculum, Ægates, Cynoscephalæ, Corfinium, Formiæ.

24. Give the ancient names of the following: York, Elbe, Saragossa, Guadalquivir, Coblenz, Arles, Lyons, Piacenza, Treves, Cape Matapan, Crimea, Stamboul, Negropont, Navarino, Santa Maura, Palermo, Trieste, Dnieper, Ceylon, the Chinese.

25. Explain the allusions in *four* of the following passages:—

- (1) *Arma rogo, genetrix nato. Te filia Nerei,  
Te potuit lacrimis Tithonia flectere conjux.*

VIRG. Aen. VIII. 383–84.

- (2) *Non hic Andromedae resonant pro matre catenae,  
Nec tremis Ausonias, Phoebe fugate, dapes,  
Pentheia non saevae venantur in arbore Bacchae,  
Nec solvit Danaas subdita cerva rates.*

PROPERT. IV. xxii. 29 sqq.

- (3) *Un dessein si funeste  
Si n'est digne d'Atrée, est digne de Thyeste.*

CREBILLON, Atrée.

- (4) *The great Emathian conqueror bade spare  
The house of Pindarus when temple and tower  
Were levelled with the ground. — MILTON'S SONNETS.*

- (5) *The Scian and the Teian muse  
\* \* \* \* \*  
Their place of birth alone is mute  
To sounds that echo farther West  
Than your sires' islands of the blest.*

BYRON, Don Juan, Canto III.

26. Turn the following into indirect discourse (you may abbreviate words that are not changed):—

Quinctius, quartum consul, ad contionem populum vocavit: “Etsi mihi,” inquit “nullius noxae conscius, Quirites, sum, tamen cum pudore summo in contionem vestram processi. Hanc ego ignominiam, quamquam jamdiu is status rerum est ut nihil boni divinet animus, si huic potissimum imminere anno scissem, vel exilio vel morte vitassem. Satis honorum erat; mori consulem tertium oportuit. Quem tandem hostes contempsero! Nos consules, an vos, Quirites? Si culpa est in nobis, auferte imperium indignis; si in vobis, quamdiu ignominiam patiemini?”

27. Explain the use of the pluperfect subjunctive in the following conditional sentences:—

(a) *Monuit, si Caesar Pompeium vicisset, ut in Africam fugerem; sin autem ab eo victus esset, ne victorem nimio gaudio adirem.*

(b) *Haec utraque improbavi; nec tamen tertium quidquam relictum erat, si noluissem triumphum de civibus comitari.*

(c) *Quantam Romae cladem excitassent Pompeiani si triumphantes intrassent!*

(d) *Hoc telum [falarica] etiamsi haesisset in scuto, nec ad corpus penetrasset, magnum timorem faciebat.*



28. Discuss the meanings of *capio*, *dico*, and *fero* as compounded with the various prepositions, and the English words derived from these compounds.

29. Put into Latin: On the 29th of July I paid 30,000,000 sesterces for Cæsar's house; Cato asked the consul to make it a question in the senate, and Hortensius said he would put his name to an act in accordance with that view.

30. Criticise the following definitions: *laborare*, to labor; *occupare*, to occupy; *ornare*, to adorn; *defendere*, to defend; *dedicare*, to dedicate; *securus*, secure; *fabulosus*, fabulous; *famosus*, famous; *paganus*, pagan; *honestus*, honest; *vilis*, vile; *obteneo*, obtain; *miserabilis*, miserable; *imago*, image.

31. Explain the constructions with οὐ μή, Dawes's Canon, the tertiary predicate, the cognate accusative; criticise any prevailing theories with regard to them.

32. Translate and explain: —

(α) τὴν Ἑλάτειαν κατέλαβεν, ὥς οὐδ' ἂν, εἴ τι γένοιτο, ἔτι συμπετυσόντων ἱμῶν καὶ τῶν Θηβαίων. — DEM. De Cor. p. 384.

(β) ἔτλα δ' οὖν θυτὴρ γενέσθαι θυγατρὸς γυναικοποιῶν πολέμων ἀρωγάν. — ÆSCH. Ag. 224-25.

(γ) οὐκ ἔσθ' ὅπως λέξαιμι τὰ φευδῆ καλά. — ÆSCH. Ag. 620.

(δ) ὅπου δ' Ἀπόλλων σκαῖος ἦ, τίνες σοφοί; — EUR. Electr. 972.

(ε) τί μ' οὐ λαβὼν

ἔκτεινας εὐθύς, ὥς ἔδειξα μήποτε

ἑμαυτὸν ἀνθρώποισιν, ἐνθεν ἦ γεγώς; — SOPH. O. T. 1391-93.

## II. MODERN LANGUAGES.

### ENGLISH.

#### English 1. — PROF. CHILD.

*History and Grammar of the English Language.* — Hadley's *History of the English Language*. — Marsh's *Anglo-Saxon Reader*. — Morris's *Historical Accidence*. — Lectures.

*Three hours a week.* 8 Juniors, 10 Sophomores.

#### English 2. — PROF. CHILD.

*Anglo-Saxon and Early English.* — Beowulf. — Mätzner's *Altenglische Sprachproben*.

*Three hours a week.* (This course was not given.)

#### English 3. — PROF. CHILD.

*English Literature.* — Chaucer (*Canterbury Tales*): Prologue, Knight's Tale, Nun's Priest's Tale. — Shakspeare: Hamlet, Tempest. — Bacon's *Essays*. — Milton: *English Poems* (except *Paradise Lost*). — Dryden: *Select Poems*.

*Three hours a week.* 88 Seniors, 20 Juniors.

### ENGLISH 8.

1. Account for the final *e*, and for such elisions, or slurs, as occur in the following verses:—

Hire overlippe wypede sche so clene.  
Or if men smot it with a yerde smerte.  
Than wolde he speke no word but Latyn.  
The blisful martir quyte you youre meede.  
I drede not that outhur thou schalt dye.  
Allas! I ne have no langage to telle.  
To fighte for a lady, benedicite.  
And forth we riden, a litel more than paas.  
I not whether sche be womman or goddesse.  
By eterne word to deyen in prisoun.  
Sche was agast, and sayde, O herte deere.

2. Explain what is italicized in these verses, including the grammatical forms when they are peculiar:—

*What schulde he studie and make hisselven wood . . .*  
*As Austyn byt?*

In love-dayes couthe he mochel helpe.  
*His studie was but litel on the Bible* (the Doctour).  
 In *Galice* at seynt Jame and at Coloyne.  
 And ran to Londone, unto seynte Pouies,  
 To seeken him a *chaunterie* for soules.  
 A gentil *maunciple* was ther of a temple,  
 Of which achatours mighten take exemple  
 For to be wyse in beyying of vitaille :  
 For whether that he payde, or took by *taille*,  
 Algate he *waytede* so in his achate  
 That he was ay biforn and in good state.  
 And this day fyfty wykes, *fer ne neer*.  
 Men may the olde *at-renne*, but nat *at-rede*.

8. Give the story of the Nonne Prestes Tale.

4. Write in prose, accurately, the meaning of these passages :—

Yet I,  
 A dull and muddy-mettled rascal, peak,  
 Like John-a-dreams, unpregnant of my cause,  
 And can say nothing : no, not for a king,  
 Upon whose property and most dear life  
 A damn'd defeat was made.

So shall you hear  
 Of carnal, bloody, and unnatural acts,  
 Of accidental judgments, casual slaughters,  
 Of deaths put on by cunning and forced cause,  
 And, in this upshot, purposes mistook  
 Fall'n on the inventors' heads.

Curtisied when you have and kist  
 The wild waves whist,  
 Foot it feately here and there,  
 And sweet sprites the burthen bear.

EXPLAIN :—

How *absolute* the knave is : the age is grown so *picked* that the toe of the peasant comes so near the heel of the courtier, *he galls his kibe* : would from a *paddock*, from a *bat*, a *gib*, such dear concernings hide : would have made *milch* the burning eyes of heaven : how are they *escoted* ? we'll e'en to't like *French falconers* : to *expostulate* what majesty should be : *limed* soul : from the body of *contraction* plucks the very soul : not to stir without great *argument* : no trophy, sword, nor *hatchment* o'er his bones.

5. Give the birth-year of Milton, of Dryden. What offices did Bacon hold ? What are his principal works ? What are the chief works of Dryden besides those which you have read ? How many years between Comus and Samson Agonistes ? How many between the birth of Bacon and the death of Dryden ?

6. Write whatever you can remember of Bacon's essay Of Love. Write down as many of the subjects of his essays as you can. What subjects display his wisdom most conspicuously, and what less ?

[For 6 may be substituted a transcript from memory of any one of these essays : Of Superstition, Of Innovations, Of Studies ; or an accurate synopsis of the essay Of Judicature.]

## 7. Explain the words italicized :—

Which many times *sorteth* to discord : a man may have a *quarrel* to marry when he will : a servant, if he be *inward*, is commonly thought but a by-way to close corruption : the *part of Epimetheus* mought well become *Prometheus* in the case of discontentments : *Burses, Triumphs, Masques* : which is a great *adamant* of acquaintance : judges ought to be *more learned than witty*, *more revered than plausible* : it may be that *Plato's great year*, if the world should last so long, would have some effect : the *blessing of Judah and Issachar* will never meet.

8. Write historical notes on any one of these three passages, giving dates for three of the persons mentioned :—

"Kings that have been fortunate conquerors in their first years turn in their later years to be superstitious and melancholy : as did Alexander the Great, Dioclesian, and, in our memory, Charles the Fifth."

"But Macchiavel knew not of a Friar Clement, nor a Ravallac, nor a Jaureguy, nor a Balthazar Gérard."

"In the first place are *conditores imperiorum* . . . such as were Romulus, Cyrus, Caesar, Ottoman, Ismael."

9. Write Milton's Sonnet to Cyriack Skinner, upon his Blindness ; and then thirty lines from Lycidas, or from Il Penseroso.

10. Give briefly the argument of Paradise Regained. Whence is the story of Samson Agonistes taken ?

## 11. Explain the following passages :—

In pastry built, or from the spit, or boil'd,  
*Gris-amber steam'd.*

Of fairy damsels met in forest wide  
By knights of *Logres*, or of *Lyones*,  
*Lancelot*, etc.

Such forces met not, nor so wide a camp,  
*When Agrican* with all his northern powers  
*Besieg'd Albracca*, as romances tell.

And as that *Theban monster*, that propos'd  
*The riddle*, and him who solv'd it not devoured,  
That once found out and solv'd, for grief and spito  
*Cast herself headlong from the Ismenian steep.*

I, on the other side,  
Used no *ambition* to commend my deeds.  
Then put on all thy gorgeous arms, thy helmet  
And brigandine of brass, thy broad *habergeon*,  
*Vant-brace*, and greaves, and gauntlet : add thy spear,  
A weaver's beam, and seven-times-folded shield.

Or so *unprincipled* in virtue's book.  
Yet, should I try, the *uncontrolled worth*  
Of this pure cause would kindle my rapt spirits.  
O fountain *Arethuse*, and thou honour'd flood  
*Smooth-sliding Mincius*, crown'd with vocal reeds,  
That strain I heard was of a higher mood.  
The fickle pensioners of *Morpheus* train.  
And sable stole of *cipres* lawn  
Over thy decent shoulders drawn.  
Or call up him that left half-told  
*The story of Cambuscan bold,*

Of Camball and of Algarsife,  
 And who had *Canace* to wife,  
 That own'd the *virtuous* ring and glass.  
 To force our consciences, that Christ set free,  
 And ride us with a *classic hierarchy*.  
 Avenge, O Lord, *thy slaughtered saints, whose bones*  
*Lie scattered on the Alpine mountains cold.*

12. Give the date and the occasion of each of the poems of Dryden that you have read. In *Annus Mirabilis*, who is the "famed commander" on the Dutch side? Give some account of Albemarle; of "the Prince." Who are the principal personages described in *Absalom and Achitophel*, and what are the Hebrew names given them? Who are the *Jebusites*?

What is the point of this couplet:—

For while from sacred truth I do not swerve,  
 Tom Sternhold's, or Tom Shadwell's, rhymes will serve.

## GERMAN.

### PRESCRIBED GERMAN.

FRESHMAN YEAR.—MR. G. A. BARTLETT.

Elementary Grammar and Composition.—Translation of Schiller's *Neffe als Onkel*, and stories by Zschokke, Heyse, etc.

*Two hours a week.*

### PRESCRIBED GERMAN.

There was another paper for advanced students set as a substitute for a part of this.

The German equivalents of the numbered words were given at the examination.

#### I.

1. (a) He ought not to have done that. (b) We wish<sup>1</sup> you would do<sup>2</sup> us the honor<sup>3</sup> to visit<sup>4</sup> us. (c) These soldiers<sup>5</sup> obey<sup>6</sup> their officers.<sup>7</sup> (d) We are not permitted<sup>8</sup> to see our friends. (e) If this landscape<sup>9</sup> were more beautiful, I would paint<sup>10</sup> it. (f) Oh that he might see his suffering<sup>11</sup> brother before he dies!<sup>12</sup> (g) It is necessary<sup>13</sup> that he should teach his pupils to play.<sup>14</sup>

2. The French<sup>15</sup> emperor<sup>16</sup> believed<sup>17</sup> he had been insulted<sup>18</sup> by this unexpected<sup>19</sup> answer,<sup>20</sup> and declared<sup>21</sup> (the) war<sup>22</sup> at once.<sup>23</sup> Bodies-of-troops<sup>24</sup> were sent-forward<sup>25</sup> and every-where<sup>26</sup> was heard the beating<sup>27</sup> of (the) drums<sup>28</sup> and the brazen<sup>29</sup> blare<sup>30</sup> of (the) trumpets.<sup>31</sup> At home, in the market, on the street, in the city, and in the country, you could hear the people<sup>32</sup> discuss<sup>33</sup> the war<sup>34</sup> and its probable<sup>35</sup> result.<sup>36</sup> Up to the first of August<sup>37</sup> all the forces<sup>38</sup> of the Empire<sup>39</sup> were busied<sup>40</sup> with the preparation<sup>41</sup> of the army<sup>42</sup> for<sup>43</sup> contest<sup>44</sup> and conquest.<sup>45</sup> The fortresses<sup>46</sup> on the frontier<sup>47</sup> were strongly<sup>48</sup> garrisoned,<sup>49</sup> although no good Frenchman<sup>50</sup> expected<sup>51</sup> that the Germans<sup>52</sup> would ever cross<sup>53</sup> the Rhine.

3. This news did not arrive until he had risen and dressed himself, for he was accustomed<sup>54</sup> to wake early. Thereupon<sup>55</sup> he sent back the

courier<sup>56</sup> with the reply, he would undertake<sup>57</sup> the journey if the citizens would communicate<sup>58</sup> to him the grounds<sup>59</sup> of their suspicion.<sup>60</sup>

4. The President has heard these representatives<sup>61</sup> defend<sup>62</sup> him, and he knows that they might be useful<sup>63</sup> to him if they would.

5. When are you going to return home? Go to<sup>64</sup> the window, and see whether our carriage<sup>65</sup> is before the door.

6. We heard that on the morning after<sup>66</sup> the engagement<sup>67</sup> the corpses<sup>68</sup> lay<sup>69</sup> thick<sup>70</sup> on the field-of-battle.<sup>71</sup>

## II.

1. „Entweder,“ rief er ihm zu, „zeigst du uns den rechten Weg, oder ich lasse dich erschießen!“ — „Sehr wohl!“ erwiderte der Bauer, „in diesem Falle werde ich als rechtschaffener Bürger sterben und brauche nicht Landesverräther zu werden.“

2. Aber noch stand einer der mittleren Bögen, auf dem sich ein Haus befand, welches von dem Zolleinnehmer mit seiner Familie bewohnt wurde.

3. Es beliebt Ihnen, mit mir zu scherzen, gnädiges Fräulein. Niemand kann Ihnen von Lormeuil besser Auskunft geben, als ich.

4. Ich gewinne einen Freund, der mir behülflich sein will, meine Geliebte zu besitzen, und ich bin im Stand, ihn wieder glücklich zu machen.

Lormeuil. Das steht zu hoffen; aber so ganz ausgemacht ist es doch nicht.

5. Ihr Herr Onkel hat mir sehr viel Gutes von Ihnen gesagt, Herr von Dorigny, und weit entfernt, mit Ihnen Händel anfangen zu wollen, biete ich von Herzen meine Freundschaft an und bitte um die Ihrige.

6. Aber beklagen kann ich mich nicht darüber, da Ihr Neffe mir zuvorgekommen ist.

7. Nun, Madame! unsre Richte hat mich seit meinem Hiersein fast nie verlassen. Wollen wir sie zum Schiedsrichter nehmen?

8. Stelle dir vor, Richte, meine Frau will mich glauben machen, daß ich hier, hier in diesem Zimmer, mit ihr gesprochen haben soll, in demselben Augenblicke, wo ich mich auf der Touloner Poststraße schütteln ließ.

9. Mein Gott, nein! Ganz im Gegentheil, ich bin recht wohl mit dir zufrieden, da du deine Rolle so gut gespielt hast.

10. Kann ich dafür? Sie sehen, daß ich eben jetzt den Neffen für den Onkel genommen — ist's zu verwundern, daß ich den Onkel für den Neffen nahm?

11. Und die Quittung über die hundert Pistolen, merk' ich jetzt wohl, habe ich auch nicht der Ehrlichkeit des Bucherers zu verdanken.

12. Nicht übel! Was? Zum Entzücken habe ich sie gespielt. Mit meiner Peitsche und den Kourierstiefeln, sah ich nicht einem ganzen Postillon gleich?

## III.

1. Als der Wagen um die Straßenecke rollte sah er noch einmal ihre liebe Gestalt, wie sie langsam den Weg zurückging. Das ängstigte ihn, er ging immer langsamer. Was fehlt dir, fragte sie, indem sie nahe zu ihm trat.

2. Nun wurden mehrere Male in der Woche Excursionen in's Feld oder in die Gärten gemacht, und hatten sie dann Mittags die grüne Botaniskapsel voll Kraut und Blumen nach Hause gebracht, so kam Reinhardt einige Stunden später wieder, um mit Elisabeth den gemeinschaftlichen Fund zu theilen.

3. Translate the following words, and give both the singular and plural (nominative only) of the nouns and the principal parts of the verbs: — Kräuter, Kreischen, Spechte, Himbeerbüsche, Marder, Kröten, Athemzug, Bänder, Erdbeerenschlag, Körbe, Gegenwart, Verkehr, Märchen, befehlen, standen, erzählen, winkte, saß, warf.

**ELECTIVES.****German 1.****(a) LITERARY COURSE. — MR. G. A. BARTLETT.**

Advanced Grammar and Composition (Weisse's Grammar and Book of Exercises). — Introduction to the History of German Language and Literature (Extracts: Kurz, Leitfaden zur Geschichte d. d. Literatur; Hahn, die Poetische Literatur; Künzel, Drei Bücher Sprach- und Stylproben). — Grimm's Landschaftsmaler. — Lessing's Minna von Barnhelm. — Prose Selections. — Conversational Exercises.

*Two hours a week. 80 Sophomores.*

**(b) HISTORICAL COURSE. — MR. W. COOK.**

Das Leben Karl's des Grossen, von Einhard. — Liutprand's Bericht über seine Sendung nach Constantinopel. — Nithard's vier Bücher Geschichten. From the "Geschichtschreiber der deutschen Vorzeit in deutscher Bearbeitung."

*Two hours a week. 7 Juniors, 42 Sophomores.*

**German 2. — PROF. HEDGE.**

Schiller's Lyrics. — Lessing's Nathan der Weise. — Tieck's Gestiefelter Kater. — H. Grimm's Venus von Milo. — Composition.

*Three hours a week. 6 Seniors, 58 Juniors.*

**German 3. — PROF. HEDGE.**

Goethe's Lyrics. — Goethe's Prose. — Goethe's Faust, First Part. — Jean Paul's Blumen-, Frucht- und Dornstücke. — Composition.

*Three hours a week. 29 Seniors.*

**(a) GERMAN 1.**

No. III. is taken partly from the mid-year paper, as the course in "Literaturgeschichte" was nearly finished at that examination.  
The German equivalents of the numbered words were given at the examination.

**I. (A.)**

Translate: —

On a fine<sup>1</sup> morning in the month<sup>2</sup> of May,<sup>3</sup> during the great war,<sup>4</sup> the early-risers<sup>5</sup> in the village<sup>6</sup> of M—— saw columns-of-troops<sup>7</sup> hastening<sup>8</sup> through the streets on the road<sup>9</sup> to the river.<sup>10</sup> Soon<sup>11</sup> after the sun had risen,<sup>12</sup> several<sup>13</sup> children, while bringing<sup>14</sup> water from a well<sup>15</sup> situated<sup>16</sup> at some<sup>17</sup> distance<sup>18</sup> from the village, heard firing<sup>19</sup> in a wood<sup>20</sup> between their village and the city of S——. Without filling<sup>21</sup> their pails,<sup>22</sup> the frightened<sup>23</sup> girls<sup>24</sup> and boys ran home and told their parents<sup>25</sup> that Gen-

eral J— had certainly<sup>26</sup> routed<sup>27</sup> the whole northern-army<sup>28</sup> and was now driving<sup>29</sup> the (Union) soldiers out of the valley.<sup>30</sup> The inhabitants<sup>31</sup> of the little village, being Southerners,<sup>32</sup> rejoiced at<sup>33</sup> the prospect of being again free, as<sup>34</sup> they expressed themselves; <sup>35</sup> but, since they could not quite<sup>36</sup> believe that such good news (*such<sup>37</sup> a good news<sup>38</sup>*) could be true,<sup>39</sup> they ordered<sup>40</sup> two young slaves<sup>41</sup> to go toward the wood in which the children said they had heard the firing. While awaiting<sup>42</sup> the return<sup>43</sup> of their messengers,<sup>44</sup> the village fathers commenced making<sup>45</sup> preparations<sup>46</sup> for<sup>47</sup> the proper<sup>48</sup> reception<sup>49</sup> of the wounded<sup>50</sup>; for they knew that, if a battle<sup>51</sup> should be fought<sup>52</sup> here, the loss<sup>53</sup> on both sides would be very heavy.<sup>54</sup> Scarce<sup>55</sup> twenty minutes<sup>56</sup> had elapsed<sup>57</sup> when the negroes<sup>58</sup> returned<sup>59</sup> and said that the woods were occupied<sup>60</sup> by cavalry,<sup>61</sup> but they could not learn<sup>62</sup> to which army it belonged.<sup>63</sup> Before they had finished<sup>64</sup> their report,<sup>65</sup> a loud<sup>66</sup> boom<sup>67</sup> was heard, and they saw a shell<sup>68</sup> hurating<sup>69</sup> over the church, just behind the huge<sup>70</sup> beeches.<sup>71</sup> This was the beginning<sup>72</sup> of the celebrated<sup>73</sup> battle of W—. It is said that General J— intended<sup>74</sup> severing<sup>75</sup> the communications<sup>76</sup> of the little army, and that General K— allowed<sup>77</sup> it to be done<sup>78</sup>; but we will not believe him capable<sup>79</sup> of a treasonable<sup>80</sup> act,<sup>81</sup> and will thank Providence<sup>82</sup> and our valiant<sup>83</sup> cannoneers<sup>84</sup> that the enemy was forced<sup>85</sup> to retreat<sup>86</sup> without having accomplished<sup>87</sup> his purpose.<sup>88</sup>

## II. (B.)

1. Every islander<sup>1</sup> is himself<sup>2</sup> an island,<sup>3</sup> says a celebrated<sup>4</sup> German author<sup>5</sup>; on the continent<sup>6</sup> we are more communicative<sup>7</sup> and free.<sup>8</sup>
2. Frequently<sup>9</sup> I have heard entire<sup>10</sup> biographies<sup>11</sup> from persons<sup>12</sup> who had only sat an hour<sup>13</sup> with me in the carriage.<sup>14</sup>
3. I thank you for this piece of information;<sup>15</sup> it is always pleasant<sup>16</sup> when one is informed<sup>17</sup> of<sup>18</sup> such<sup>19</sup> facts<sup>20</sup> on the spot.<sup>21</sup>
4. Here certainly<sup>22</sup> the eye is wearied<sup>23</sup> by the sight<sup>24</sup> of the monotonous<sup>25</sup> pine forests,<sup>26</sup> which rise<sup>27</sup> on every hill.<sup>28</sup>
5. Why should<sup>29</sup> we permit<sup>30</sup> this man to destroy<sup>31</sup> our arrangements,<sup>32</sup> since he does not possess<sup>33</sup> that interest<sup>34</sup> in<sup>35</sup> the affair<sup>36</sup> which we consider<sup>37</sup> (as) necessary.<sup>38</sup>
6. We have something<sup>39</sup> to say to you, which we heard while travelling<sup>40</sup> in the society<sup>41</sup> of those friends whose good fortune<sup>42</sup> had caused<sup>43</sup> you such<sup>44</sup> joy.<sup>45</sup>
7. Thereupon<sup>46</sup> the Jews<sup>47</sup> convinced themselves<sup>48</sup> that the law<sup>49</sup> to which they had submitted<sup>50</sup> was no longer<sup>51</sup> in force.<sup>52</sup>
8. If these reinforcements<sup>53</sup> are withdrawn,<sup>54</sup> we shall not venture<sup>55</sup> to attack<sup>56</sup> the fortification;<sup>57</sup> but, if still further<sup>58</sup> assistance<sup>59</sup> should arrive,<sup>60</sup> we do not doubt<sup>61</sup> that the besieged<sup>62</sup> would surrender.<sup>63</sup>

## III. (A.)

### Uebersicht der Literaturgeschichte.

1. Wo sind die ersten geschichtlichen Spuren der deutschen Sprache zu suchen?
2. Andere Sprachen desselben Stammes?
3. Zwei Hauptabschnitte der deutschen Literaturgeschichte?
4. Sieben kleinere Perioden derselben?
5. Charakter der dritten Periode? der siebenten Periode?
6. In welche Periode fällt die erste Blüthezeit? Die zweite?
7. Lessing: sein Leben und seine Werke?



## IV. (A.)

## CONVERSATIONAL EXERCISES.

1. Translate that. 2. It is too difficult. 3. Do you understand it now? 4. Let us take a short walk. 5. Summer is gone, it is a little cool. 6. Put on your gloves and great-coat. 7. How long have you been learning German? 8. Is that an interesting book which you are reading? 9. What part of the town do you live in? 10. Explain this rule to me. 11. Give me some examples. 12. It has left off raining. 13. We have always an examination at the end of the year. 14. Tell him I have a letter for him. 15. Where have you spent your holidays? 16. Your piano is out of tune, you should have it tuned. 17. Give me ready money, please. 18. Permit me to open the door for you. 19. There are many persons who do not like this dish. 20. Has the carriage come? 21. No, not yet; you ordered it for two o'clock, I understand. 22. It is true I shall have time to take lunch with you.

## V. (A and B.)

1. Werner. — Ich merke wohl, daß eine schöne Disposition über deinen Verstand geht. Ich will meine Perlen nicht vor die Säue werfen.

2. Er hat das rechtschaffenste Herz, aber Rechtschaffenheit und Edelmuth sind Worte, die er nie auf die Zunge bringt.

3. Er verunglückte zwei Meilen von hier mit seinem Wagen, und wollte durchaus nicht, daß mich dieser Zufall eine Nacht mehr kosten sollte.

4. Das hätte ich beßer gethan; ja. Aber eigentlich wollte ich mich nur bei Ihnen bedanken, daß Sie so gut gewesen, und mir die hundert Louisd'or aufgehoben.

5. Ich sage den Großen meinen großen Dank, daß sie ihre Ansprüche auf einen Mann haben fahren lassen, den ich doch nur sehr ungern mit ihnen getheilt hätte.

6. O, über die wilden, unbiegsamen Männer, die nur immer ihr stieres Auge auf das Gespenst der Ehre heften, für alles andere Gefühl sich verhärten!

7. Ihr eigenes Vermögen ist gar nicht beträchtlich; durch ein wenig eigen-nützige Rechnungen können es ihr die Vormünder völlig zu Wasser machen.

8. Und ist es meine Einrichtung, daß alle Uebertreibungen des Lächerlichen so fähig sind? Ich wette, wenn ich Ihren Bettler nun vernehme, daß auch dieser eben so wenig Stich halten wird.

9. Der Alte watete in seinem Reichtume umher, durchfuhr das Blätterwerk mit der offenen Hand im Vorbeigehen, wie man den Schafen durch die Wölle fährt, hob einige Früchte auf, die das Gewitter herabgeschlagen hatte, putzte sie am Nothe besah sie und steckte sie in die weite Tasche.

10. Friedrich war ein Landschaftsmaler seines Zeichens. Auf der letzten Ausstellung traf er von einem seiner eigenen Werke mit dem Pfarrer zusammen, der ihn mit ungenirtter Offenheit unbekannter Weise zum Vertrauten seiner Bewunderung machte.

11. Er blickte in die Tiefe der Kastanien hinaus, zwischen denen einige Pap-peln standen, sah der Mäx nach, die mit bloßen Füßen und rothem Kopftuche den Eimer zum Brannen trug, hörte das Gequitsche des Schwengels und läuschte dann wieder auf die tiefe Stille, als die Sache abgethan war.

Einen Augenblick kam es ihm da vor, als müsse er wieder fort.

12. Wem er fehlt, der sucht das Neue, Frappante, Sichtbare auf, um von außen in sich hineinzutragen, was von innen aus zu schauen verwehrt bleibt;

wer aber das Glück kennt, in sich aufsteigen zu sehen, was die äußere Welt niemals in solcher Schönheit bieten würde, der sucht instinctmäßig den Platz auf, wo dieser heimlichen Gewalt der freieste Spielraum wird, sich auszudehnen in die Unendlichkeit.

13. So als ein Duzend hoher, schlanker Fiefern bäume zerstreut dastanden, jeder mit dem schwarzen Schattenfleck neben sich, den seine bunte, unbewegliche Krone dem Sonnenlichte abtrögte.

14. (B only). Conjugate all the verbs in 5, 9, and 12.

# GERMAN 8.

## I. GOETHE'S FAUST.

1. What historical foundation is there for the Faust legend; in other words, who was the original of the Faust of tradition whom Goethe has taken for the subject of his drama? What is known of his history, and from what sources?

2. What is the popular legend concerning his fate?

3. By whom and when was this legend first published?

4. Through whose work did Goethe probably first become acquainted with Faust?

5. When did the subject of his drama first occur to him? When was any portion of it first published? When was the First Part published entire? When was the Second Part completed? How many years, then, are comprised between the first inception and the completion?

6. What English poet has treated the same theme? What is the date of his work?

Translate:—

Erhabner Geist, du gabst mir, gabst mir alles,  
Warum ich bat. Du hast mir nicht umsonst  
Dein Angesicht im Feuer zugewendet.  
Gabst mir die herrliche Natur zum Königreich,  
Kraft, sie zu fühlen, zu genießen. Nicht  
Kalt staunenden Besuch erlaubst du nur,  
Bergönne mir in ihre tiefe Brust  
Wie in den Busen eines Freund's zu schauen.  
Du führst die Reihe der Lebendigen  
Vor mir vorbei, und lehrst mich meine Brüder  
Im stillen Busch, in Lust und Wasser kennen.  
Und wenn der Sturm im Walde braus't und knarrt,  
Die Felsenfichte stürzend Nachbaräste  
Und Nachbarstämme quetschend nieder streift,  
Und ihrem Fall dumpf hohl der Hügel donnert;  
Dann führst du mich zur sichern Höhle, zeigst  
Mich dann mir selbst, und meiner eignen Brust  
Geheime tiefe Wunder öffnen sich.  
Und steigt vor meinem Blick der reine Mond  
Besänftigend herüber; schweben mir  
Von Felsenwänden, aus dem feuchten Busch,  
Der Vorwelt silberne Gestalten auf,  
Und lindern der Betrachtung strenge Lust.

O daß dem Menschen nichts Vollkomm'nes wird  
Empfind' ich nun. Du gabst zu dieser Banne,  
Die mich den Göttern nah' und näher bringt,  
Mir den Gefährten, den ich schon nicht mehr  
Entbehren kann, wenn er gleich, kalt und frech,  
Mich vor mir selbst erniedrigt, und zu Nichts,  
Mit einem Worthauch, deine Gaben wandelt.  
Er facht in meiner Brust ein wildes Feuer  
Nach jenem schönen Bild geschäftig an.  
So tauml' ich von Begierde zu Genuß.  
Und im Genuß verschnacht' ich nach Begierde.

## II. JEAN PAUL.

Translate:—

Du liebe Lenette! Eine Braut ist zwar viele Tage lang für jeden, den sie nicht heirathet, ein schlechtes, mageres heil. Schaubrod, und für mich vollends; aber eine Stunde nehm ich aus — nämlich die am Morgen des Hochzeitstages —, worin die bisherige Freiin in ihrem biden Puge zitternd, mit Blumen und Federn bewachsen, die ihr das Schicksal mit ähnlichen bald ausreißet, und mit ängstlichen andächtigen Augen, die sich am Herzen der Mutter zum letzten und schönsten Mal ergießen; mich bewegt diese Stunde, sag' ich, worin diese Geschnidte auf dem Gerüste der Freude so viele Trennungen und eine einzige Vereinigung feiert, und worin die Mutter vor ihr umkehrt und zu den andern Kindern geht und die Ängstliche einem Fremden überläßt. Du froh pochendes Herz, denk' ich dann, nicht immer so wirfst du dich unter den schwülen Ehejahren heben, dein eignes Blut wirfst du oft vergießen, um den Weg in's Alter fester herabzukommen, wie sich die Gensenjäger aus Blut ihrer eignen Fersen halten.

## III. COMPOSITION.

Translate into German:—

In the whole history of man no chapter<sup>1</sup> is more instructive<sup>2</sup> for heart and mind than the annals<sup>3</sup> of crime.<sup>4</sup> Viewed<sup>5</sup> on<sup>6</sup> that side, there is much-to-be-objected-to<sup>7</sup> [in] the ordinary<sup>8</sup> treatment<sup>9</sup> of history; and here, I suspect,<sup>10</sup> lies the reason why the study<sup>11</sup> of the same is so fruitless<sup>12</sup> in<sup>13</sup> civil<sup>14</sup> life. There is a gap<sup>15</sup> between the historical subject<sup>16</sup> and the reader which precludes<sup>17</sup> the possibility<sup>18</sup> of comparison<sup>19</sup> or application,<sup>20</sup> and [which] instead of that wholesome<sup>21</sup> terror<sup>22</sup> which should warn<sup>23</sup> proud<sup>24</sup> health,<sup>25</sup> awakens<sup>26</sup> only surprise.<sup>27</sup> We regard<sup>28</sup> the wretch<sup>29</sup> — who, after-all,<sup>30</sup> in the very hour in which he committed<sup>31</sup> the deed, as in that in which he atones<sup>32</sup> for it, was a man like ourselves — as a creature<sup>33</sup> of another species,<sup>34</sup> whose blood circulates<sup>35</sup> otherwise<sup>36</sup> than ours, whose will obeys<sup>37</sup> other laws.<sup>38</sup> His fate moves<sup>39</sup> us little; there lacks<sup>40</sup> the bond<sup>41</sup> of sympathy<sup>42</sup> between him and us.

1 Capitel. 2 unterrichtend. 3 Annalen. 4 Verbrechen. 5 angesehen. 6 von. 7 läßt sich manches gegen einwenden. 8 gewöhnlich. 9 Behandlung, f. 10 vermuthen. 11 Studium, n. 12 fruchtlos. 13 für. 14 bürgerlich. 14 Rinde, f. 15 Subject, n. 16 ausschließen. 17 Möglichkeit, f. 18 Vergleichung, f. 19 Anwendung, f. 20 heilsam. 21 Schrecken, m. 22 warnen. 23 stolz. 24 Gesundheit. 25 erwecken. 26 Befremdung, f. 27 ansehen. 28 unglücklicher. 29 doch. 30 begehen. 31 büßen. 32 Geschöpf, n. 33 Gattung, f. 34 umlaufen. 35 anders. 36 gehorchen, with dative. 37 Gesetz, n. 38 rühren. 39 fehlen. 40 Band, n. 41 Mitgefühl, n.

## IV. TRANSLATION AT SIGHT.

Translate:—

Diese Botschaften<sup>1</sup> zerrissen das alte Blendwerk meiner Urbilder<sup>2</sup> von Menschenwerth, Volkstugend und Freiheit. Viele Jahre hatte ich verschwendet, viele Wunden dafür getragen. In zerrissenen Kleidern, ausgestoßen und verlassen, lag ich einem Bettler gleich, am Fuße des Aetna und überdachte mein Schicksal und die Schande von Syrakus. War ich nicht ein Thor, der sich in die Schöne seines Traumes verliebt hatte? Wofür hatte ich gelebt und gerungen und gebuhlet? Zu meinen Füßen kroch ein Käfer<sup>3</sup> am Felsen. Ein kleiner Vogel hüpfte vom Zweig nieder und verzehrte ihn. In dem der Vogel fröhlich zwitscherte, schoß ein Raubvogel aus der Höhe herab und zerriß zu meinen Füßen den Mörder des Käfers. „Das ist's, was die Natur will,“ rief ich. Kein Gleichgewicht sondern ein Kämpfen der Kräfte; die Stärkste soll herrschen.

<sup>1</sup> Tidings.<sup>2</sup> Ideals.<sup>3</sup> Beetle.

## FRENCH.

## PRESCRIBED FRENCH.

SOPHOMORE YEAR. — MR. JACQUINOT.

Required only of those who had not previously passed a satisfactory examination.

Otto's French Grammar. — Bôcher's Reader.

*Two hours a week. 85 Sophomores.*

## PRESCRIBED FRENCH.

1. Translate into English:—

(a) D. Vous ne *comprenez* pas? Donner à un carrossier l'occasion de sauver son semblable, sans danger pour lui, c'est un coup de maître! Aussi, depuis ce jour, je suis sa joie, son triomphe, son fait d'armes! Dès que je *parais*, sa figure s'épanouit, son estomac se gonfle, il lui pousse des plumes de paon dans sa redingote . . . Je le *tiens*! comme la vanité tient l'homme . . . Quand il se refroidit, je le ranime, je le souffle . . . je l'imprime dans le journal . . . à trois francs la ligne!

A. Ah bah! c'est vous?

D. Parbleu! Demain je le fais *peindre* à l'huile . . . en tête-à-tête avec le mont Blanc! J'ai demandé un tout petit mont Blanc et un immense Ferrichon! Enfin, mon ami, *retenez* bien ceci . . . et surtout gardez-moi le secret: les hommes ne s'attachent point à nous en raison des services que nous leur rendons, mais en raison de ceux qu'ils nous rendent!

(b) Tu n'as peut-être jamais pensé à ce qu'est la patrie, reprit-il, en me posant une main sur l'épaule; c'est tout ce qui t'entoure, tout ce qui t'a élevé et nourri, tout ce que tu as aimé! Cette campagne que tu *vois*, ces maisons, ces arbres, ces jeunes filles qui passent là en *riant*, c'est la patrie! Les lois qui te protègent, le pain qui paie ton travail, les paroles que tu *échanges*, la joie et la tristesse qui te *viennent* des hommes et des choses parmi lesquels tu *vis*, c'est la patrie! La petite chambre où tu as vu autrefois ta mère, les souvenirs qu'elle t'a laissés, la terre où elle re-

pose, c'est la patrie ! tu la vois, tu la respires partout ! Figure-toi, mon fils, tes droits et tes devoirs, tes affections et tes besoins, tes souvenirs et ta reconnaissance, réunis tout ça sous un seul nom, et ce nom-là sera la patrie !

(c) Aussitôt tout se *tut*, et je vis la grande salle ; les rangées de tables toutes jaunes et tachées d'encre autour, les bancs où des quantités d'enfants en sabots, en souliers, et même pieds nus, s'usaient les culottes depuis des années ; les exemples pendues à des ficelles le long des fenêtres ; le grand fourneau de fonte à droite, derrière la porte ; le tableau noir contre le mur, au fond du même côté ; et la chaire à gauche, entre deux fenêtres, où M. V. était assis, le grand martinet replié sur le pupitre.

2. (a) State mood and tense of the italicized verbs in the above extracts, and give the primitive tenses (thus, *INF. avoir* ; *PRES. PART. ayant* ; *PAST PART. eu* ; *PRES. IND. j'ai* ; *PRET. j'eus*).

(b) What tenses are formed from the Present Participle ?

(c) Give in full the Present Indicative of *finir*, *pouvoir*, *conduire*, *s'en aller*.

(d) Give the Preterit and Future (first person singular only) of *acquiescer*, *valoir*, *naître*, *pouvoir*.

(e) What is peculiar about the conjugation of reflexive verbs ?

(f) Give the principal rules for the formation of the plural in nouns.

(g) What is the difference between *quel* and *lequel* ?

(h) When is the pronoun *quoi* used ?

8. Translate into French : —

(a) Sleep<sup>1</sup> is the brother of death.<sup>2</sup> (b) My cousin's garden<sup>3</sup> is larger than yours. (c) Her father has bought<sup>4</sup> some vinegar,<sup>5</sup> oil,<sup>6</sup> and mustard.<sup>7</sup> (d) This window<sup>8</sup> is small and low.<sup>9</sup> (e) Every man is liable<sup>10</sup> to error. (f) Those mountains<sup>11</sup> are higher than all the other mountains of Europe. (g) Whose book<sup>12</sup> is this ? It is a book which my sister bought for me ; I read it yesterday, and I assure<sup>13</sup> you that it is very interesting.<sup>14</sup> (h) Who sold him the horse which he rides ?<sup>15</sup> I sold it to him. (i) Has she given her the gloves ?<sup>16</sup> Which gloves ? Those which were on the parlor<sup>17</sup> table. She has given them to me. (j) Do you hear<sup>18</sup> what I say ? (k) Don't you know the woman whose letter<sup>19</sup> he has received ? (l) You must work.<sup>20</sup>

<sup>1</sup> sommeil, m. <sup>2</sup> mort, f. <sup>3</sup> jardin, m. <sup>4</sup> acheter. <sup>5</sup> vinaigre, m. <sup>6</sup> huile, f. <sup>7</sup> moutarde, f. <sup>8</sup> fenêtre, f. <sup>9</sup> bas. <sup>10</sup> sujet. <sup>11</sup> montagne, f. <sup>12</sup> livre, m. <sup>13</sup> assurer. <sup>14</sup> intéressant. <sup>15</sup> monter. <sup>16</sup> gant, m. <sup>17</sup> salon, m. <sup>18</sup> entendre. <sup>19</sup> lettre, f. <sup>20</sup> travailler.

## ELECTIVES.

### French 1. — MR. JACQUINOT.

Chardenal's Advanced Exercises. — Töpffer (Nouvelles Gênoises).  
— Jules Sandeau (Mademoiselle de la Seiglière. Comédie).

Three hours a week. 22 Juniors, 16 Sophomores.

### French 2. — PROF. BÔCHER.

Molière (eight Comedies). — Racine (Athalie). — De Vigny (Cinq-Mars).  
— Composition.

Three hours a week. 8 Seniors, 29 Juniors, 16 Sophomores.

**French 3. — PROF. BÔCHER.**

Montaigne (Essays). — Gerusez (Cours de Littérature). — George Sand (Les Maîtres Sonneurs). — Brachet (Grammaire Historique). — Composition.

*Three hours a week. 15 Seniors, 2 Juniors, 6 Sophomores.*

**French 4. — MR. JACQUINOT.**

Syntaxe Supérieure. — Marcillac (Manuel d'histoire de la littérature française). — Molière (Le Misanthrope). — Boileau (Art Poétique). — Voltaire (Zadig). — Beaumarchais (Le Barbier de Séville et le Mariage de Figaro). — Victor Hugo (Hernani). — F. Ponsard (L'Honneur et l'Argent). — Augier (Le Gendre de Monsieur Poirier). — Composition and Themes.

*Three hours a week. 5 Seniors, 4 Juniors.*

**Romance Philology. — PROF. BÔCHER.**

Philology of the Romance Languages. — Diez (Grammatik der Romanischen Sprachen). — Bartsch (Chrestomathie de l'ancien français). — Bartsch (Chrestomathie provençale). — Poema del Cid. — Lectures.

*Three hours a week. 5 Seniors, 3 Juniors.*

**FRENCH 2.**

1. (a) Give a brief sketch of Racine's life. (b) What was Molière's last play? give an account of his death. (c) Say what you know about the *Hôtel de Rambouillet*. (d) Who were *Vaugelas*, *Cotin*, *Ménage*, *Boursault*? (e) What is the origin of the names *Comédie française*, *Théâtre français*, *Les Français* given to the principal theatre of Paris? (f) In Gérôme's picture representing Molière sitting at table with Louis XIV. what incident is depicted?

2. (a) In the farce *La Jalousie du Barbouillé*, why the name *Barbouillé*? (b) What was the *Commedia dell' arte*? how connected with Molière's early plays? (c) Whence the name *Mascarille*? (d) Mention any phrases or turns of the style *précieux* that you remember occurring in *Les Précieuses ridicules*, *Les Femmes savantes*, or *La Critique de l'Ecole des Femmes*.

3. Give the usual French for the following expressions used by Martine in *Les Femmes Savantes*, and give the meaning in each case: (a) *Prêcher en chaise*. (b) *Mon congé me fût-il hoc*. (c) *Je n'avons pas élogué comme vous, et je parlons tout droit comme on parle chez nous*. (d) *Tous vos beaux dictons ne servent pas de rien*. (e) *Pourquoi lui bailler un savant*.

4. Explain the following expressions: (a) *Avoir l'esprit en écharpe*. (b) *Vous nous la baillez bonne*. (c) *Croquer le marmot*. (d) *Je m'en escrime un peu*. (e) *Accommoder de toutes pièces*. (f) *Dauber d'importance*. (g) *Passer le pas*. (h) *Bien des gens ont frondé cette comédie*. (i) *La caution n'est pas bourgeoise*. (j) *Je n'ai garde de m'y aller frotter*. (k) *J'y paierai de ma personne*. (l) *Il ne s'agit pas de s'amuser*.

5. What is peculiar in the use of the italicized words in the following: (a) *Donne-moi un peu*, ce mémoire. (b) *C'est quelque chose que cela*. (c) *Serais-tu pour me trahir?* (d) Si vous *auriez* de la répugnance à me voir votre belle-mère, je n'en aurais pas moins à vous voir mon beau-fils. (e) Avez-vous su *quel* il est? (f) Nous *feignons* à vous aborder. (g) *C'est un coupe-gorge*.

6. (a) What is the force of *Je suis votre valet* in an answer? What of *Point d'affaires?* What of *Tout beau?* (b) What is the usual force of *pas mal* in such phrases as *Cela n'est pas mal; Il ne parle pas mal?* (c) What is the force of *moi* in *Dressez-lui-moi un procès comme larron?*

7. What is the difference between *confidence* and *confidence*? *user* and *se servir*? *sentence* and *phrase*? *Que ne le dites-vous* and *Pourquoi ne le dites-vous pas?*

8. Explain the principle according to which the italicized verbs are in the tense in which they are: (a) Une jeune personne qui *loge* depuis peu en ces quartiers. (b) Je me *sentis* transporté dès le moment que je la *vis*. (c) O ciel! Je me *serai* trahi moi-même!

Why is *pas* omitted in the following: (d) Ne bougez d'ici. (e) Que ne tâchez-vous aussi à gagner l'appui de mon frère?

9. Who was the *Dauphin*, and why was he so called?

10. How were the following words used in Molière's time: *Made-moiselle*, *Occasion* (nous nous sommes vus tous deux dans l'occasion), *Honnête homme*, *Créance*?

11. Make any comments you can upon Molière, "La Critique de l'École des Femmes," Scene 2, from *Je me souviens* to the end of the scene.

12. What prepositions, if any, are used after the following verbs, and how is the sense modified whether they are used without a preposition, or with *à*, *de*, or any other: *changer*, *penser*, *croire*?

13. Give the rule for the agreement of *demi* and *feu* (late).

14. What is there to say about the pronunciation of the words *fouet*, *fat*, *solennel*, *poignant*?

15. Translate freely:—

(a) Molière, "Le Misanthrope," Act II. Scene 5, from *Oui; mais il veut avoir*, 15 lines.

(b) Racine, "Athalie," Act IV. Scene 4, from *J'approchai par degrés*, 12 lines.

(c) Molière, "L'École des Femmes," Act III. Scene 4, from *Comme il faut*, 7 lines.

(d) De Vigny, "Cinq-Mars," p. 343, from *En parlant*, to the bottom of the page.

16. Translate into French:—

(a) A hare jeered at a tortoise for the slowness of his pace. But he laughed and said that he would run against her, and beat her, any day she should name. "Come on," said the hare, "you shall soon see what my feet are made of." So it was agreed that they should start at once.

The tortoise went off, jogging along, without a moment's stopping, at his usual steady pace. The hare, treating the whole matter very lightly, said she would first take a little nap, and that she should soon overtake the tortoise. Meanwhile the tortoise plodded on, and the hare, over-sleeping herself, arrived at the goal only to see that the tortoise had got in before her.

(b) I have no money about me.

(c) I shall be in your neighborhood to-morrow morning and will call on you.

(d) I observed last night, and not without some degree of envy, the pleasure you experienced in being able to partake of and join in the conversation of the English ladies whom I had the honor of meeting at your house.

#### FRENCH 4.

1. Traduisez les mots imprimés en italiques dans les extraits ci-dessous ; ajoutez-y les commentaires auxquels pourra donner lieu chaque mot ou chaque expression : —

(a) *Parbleu !* je viens du *Louvre* où *Cléonte*, au *levé*, etc.

(b) Et puis-je *mais* des soins qu'on ne va pas vous rendre ?

(c) Dites-moi, par quel sort

Votre *Clitandre* a l'heur de vous plaire si fort ?

(d) J'avais rempli le *parterre* des plus excellents *travailleurs*. — Une figure *fort* revenante.

(e) *Espérance*, espoir ; naturel, simplicité, naïveté.

(f) *Don Gusman Brid'oison*. — *Séparation* de biens ; *séparation* de corps. — Cheveux en *cadenette*.

(g) Le *savoir-faire* vaut mieux que le *savoir*. — J'épousais une jolie mignonne ! — Je vous ai fait rendre à *Bazile* un billet. . . .

(h) A *pédant*, *pédant* et *semi*. Qu'il s'avise de parler latin, j'y suis *Grec*, je l'extermine.

(i) Te voilà passé à l'état de *neveu honoraire*. — Une passion de l'an dernier qui a eu son *été* de la *Saint-Martin*.

(j) Il m'a coupé l'herbe sous le pied. — Il vous rendrait des *points*.

(k) Un conseil de famille ! Voudriez-vous me faire *interdire* ? — Vous lui en faites voir de grises.

(l) Allez, *Sully* ! allez, *Turgot* ! — La *bande noire* a bon nez. — Tu l'as voulu, *Marquis* de *Presles* !

(m) Un *haro* général s'élève contre lui :

Il a le malheureux, mangé l'herbe d'autrui !

(n) Salut, ô *Turcaret*, salut ô parasite, etc.

(o) L'amour et la fortune, ailleurs comme en Espagne, Sont jeux de *dés pipés*. C'est le voleur qui gagne.

(p) Faux seigneur de *cliquant*, recousu de *gros fil* !

2. Traduisez en français : —

(a) And here my heart smote me, suggesting how much better this poor man's foundation was, on which he staid in the danger, than mine ; that he had nowhere to fly ; that he had a family to bind him to attendance, which I had not ; and mine was mere presumption, his a true dependence and a courage resting on God. — DEFOE.

(b) The fox, hard run and nearly spent, first made his appearance from the copse which clothed the right-hand side of the valley. His drooping brush, his soiled appearance, and jaded trot, proclaimed his fate impending. He crossed the stream which divides the little valley, and was dragging himself up a ravine on the other side of its wild banks, when the headmost hounds, followed by the rest of the pack in full cry, burst from the coppice, followed by the huntsman and three or four riders. The dogs pursued the trace of Reynard with unerring instinct ; and the



hunters followed with reckless haste, regardless of the broken and difficult nature of the ground. — W. SCOTT.

(c) He was a native of Rome, and had lived in some familiarity with, and been much patronized by, a young nobleman; but upon some slight occasion they had fallen out; and his patron, besides using many reproachful expressions, had struck him. The painter brooded over the disgrace of the blow. — COLERIDGE.

3. Expliquez les passages suivants de l'*Art Poétique* : —

- (a) Jadis de nos auteurs les pointes ignorées  
Furent de l'Italie en nos vers attirées.
- (b) Et le vers sur le vers n'osa plus enjamber.
- (c) D'un air encore plus grand, la poésie épique,  
Dans le vaste récit d'une longue action,  
Se soutient par la *fable* et vit de *fiction*.
- (d) Qu'en un lieu, en un jour, un seul fait accompli  
Tienne jusqu'à la fin le théâtre rempli.

4. (a) Quels sont les quatre chroniqueurs français? A quelle époque vivait chacun d'eux? Quel est le sujet de leurs chroniques?

(b) Faites un aperçu historique de la tragédie en France jusqu'à Corneille et Racine; donnez les titres des principales tragédies de ces deux auteurs.

(c) Écrivez une courte notice sur Montesquieu.

(d) Quels sont les principaux ouvrages de Voltaire et de J. J. Rousseau?

(e) Quelles sont les origines du romantisme? Qu'est-ce qui distingue l'école classique de l'école romantique?

(f) Quels sont les auteurs des ouvrages dont les noms suivent: *Le Roman de la Rose*, *Le Grand et le Petit Testament*, *L'Institution chrétienne*, *Défense et Illustration de la Langue française*, *L'Étourdi*, *Les Plaideurs*, *Le Lutrin*, *Discours sur l'Histoire universelle*, *Caractères ou Mœurs de ce Siècle*, *Entretiens sur la Pluralité des Mondes*, *Les Époques de la Nature*, *Delphine*, *René*, *Les Messéniennes*, *Jocelyn*, *Henri III. et sa Cour*, *Les Feuilles d'Automne*?

## ROMANCE PHILOLOGY.

Question 11 is upon matter that had not been translated in the class.

1. Give a brief account of Diez and of his works.

2. Mention, in the order of their importance, eight works that bear specially upon the study of Romance philology (not by Diez, Littré, Bartsch, Gaston Paris, or Brachet).

3. What is the nature of the periodical "Romania"?

4. Give some account of *one* subject in each of the three following groups : —

(a) Glosses of Cassel, Oaths of Strasburg, Laws of William the Conqueror.

(b) Cantilène de Sainte Eulalie, Chanson de Roland, Vie de Saint Alexis.

(c) Poème sur Boëce, Girart de Rossilho, Ciullo d'Alcamo's sirventese.

5. What is the probable date of the composition of the *Poema del Cid*, and how does it stand related to the *Chansons de Geste*?

6. Give the etymology of the following words, accounting for the changes:—

(a) Italian, *stesso*, *cogliere*, *gioja*, *vecchio*.

(b) Spanish, *hidalgo*, *rancho*, *noche*, *Santiago*.

(c) French, *plaire*, *croître*, *destrier*, *aide*, *ains*, *désormais*.

(d) Provençal, *cossire* (*consire*), *trobador*, *ges*, *cobla*.

7. Discuss the etymologies proposed for the verb, Ital., *andare*; Span., *andar*; Prov., *anar*; Fr., *aller*.

8. Account historically for the introduction of the article into the Romance languages; give the sequence of the various forms down to the present, and account for the disappearance of the Latin accented syllable in such forms as *le*, *la*, *les*.

9. Since the Latin accented syllable is transmitted to words of popular formation, why do we find (*ils*) *naissent*, *suivent*, and not *naissent* (*nascuntur*), *suivont* (*sequuntur*)? Why also *tinrent* (*tenuerunt*), *lurent* (*legerunt*)?

10. Why should the Romance languages have sought for a new formation for the future, instead of adopting in some way the Latin forms?

11. Translate with such comments as the text may call for:—

(a) Un Sermon de Saint Bernard, Bartsch (Anc. franç.), p. 193, as far as l. 32.

(b) Bertran de Born *Pos als baros*, Bartsch (Prov.), pp. 113, 114.

## ITALIAN.

### Italian 1.—ASST. PROF. NASH.

Toscani's Grammar.—Prose Scelte.—Prose Composition.

Two hours a week. 4 Juniors, 19 Sophomores.

### Italian 2.—ASST. PROF. NASH.

Toscani's Grammar.—Prose Scelte.—Manzoni's *I Promessi Sposi*.—Prose Composition.

Three hours a week. 6 Juniors.

### Italian 3.—ASST. PROF. NASH.

Tasso.—Petrarca.—Dante.—Early Italian.—Italian Composition and Versification.

Three hours a week. 3 Seniors.

## ITALIAN 3.

## KEY TO THE TENSES.

INDICATIVE.	CONDITIONAL.
1. Present.	13. Present.
2. Imperfect.	14. Past (Compound).
3. Perfect.	15. IMPERATIVE.
4. Future.	INFINITIVE.
5. Compound Present.	16. Present.
6. " Imperfect.	17. Past (Compound).
7. " Perfect.	18. Gerund.
8. " Future.	19. Compound Gerund.
SUBJUNCTIVE.	20. PAST PARTICIPLE.
9. Present.	
10. Imperfect.	
11. Compound Present.	
12. " Imperfect.	

## A. — (TASSO : Gerusalemme Liberata.)

1. Give dates of birth and death of Tasso, or else the date of publication of this poem; and, briefly, anything important that you know of Tasso.

2. In the following lines mark the syllables that bear the prosodical accents :—

Va Piero solo innanzi, e spiega al vento  
Il segno riverito in Paradiso.

3. In the following lines the order of words has been altered, but each word is intact. Rearrange each line by itself so as to make perfect verses :—

Diviso in duo ordini lunghissimi.  
Pocia l'altare ornan in cima del colle,  
Che è al sacerdote mensa di gran cena.

## B. — (PETRARCA : Le Rime.)

1. Give dates, etc., for Petrarca, as required in A. 1, for Tasso.

2.

## SONETTO.

L' aura e l' odore e 'l refrigerio e l' ombra  
Del dolce lauro, e sua *vista fiorita*,  
*Lume* e riposo di mia stanca vita,  
*Tolto* ha *colei* che tutto 'l mondo sgombra.  
Come a noi 'l Sol, se sua *soror* l' adombra,  
Così l' alta mia luce a me *sparita*,  
Io *cheggio* a Morte incontr' a Morte *aita* ;  
Di sì scuri pensieri Amor m' ingombra.  
Dormito hai, bella *donna*, un breve *sonno* :  
Or se' svegliata fra gli *spirti eletti*,  
*Ove* nel suo Fattor l' *alma* s' interna.  
E, se mie rime alcuna cosa *ponno*,  
Consecrata fra i nobili intelletti,  
*Fia* del tuo nome qui memoria eterna.

(a) Translate this Sonnet as closely as the English idiom will allow.

(b) Explain allusions, metaphors, etc., and make any remarks that will tend to a better understanding of the piece.

(c) Answer the following questions upon the text :—

*Vista*, give its several meanings; *fiorita*, parse; *lume*, its etymology? and is it the usual form in which Italian nouns are derived from Latin? *di mia*, etc., how in modern prose? *tolto*, give tenses 3 and 4 in full; *colei*, its plural, and the masculine singular and plural? *soror*, modern form? *sparita*, parse it, and give full form of this tense; *cheggio*, modern prose form? also write tenses 3 and 20 in full; *aita*, modern form? *donna* and *sonno*, etymology? *spirti*, prose form? *eletti*, tense 16, and first person singular of 3; *ove*, etymology? *alma*, prose form? *ponno*, usual prose form? *fia*, here for what prose form? it sometimes stands for another prose tense, — name it.

## 8.

## CANZONE.

Italia mia, benchè 'l parlar sia indarno  
 Alle piaghe mortali  
 Che nel bel corpo tuo s'è spesse veggio,  
 Piacemi almen che i miei sospir sien quali  
 Spera 'l Tevere e l' Arno,  
 E 'l Po, dove doglioso e grave or seggio.  
 Rettor del ciel, io cheggio  
 Che la pietà che ti condusse in terra,  
 Ti volga al tuo diletto almo paese:  
 Vedi, Signor cortese,  
 Di che lievi cagion che crudel guerra;  
 E i cor, che 'ndura e serra  
 Marte superbo e fero,  
 Apri tu, Padre, e 'ntenerisci e snoda;  
 Ivi fa che 'l tuo vero  
 (Qual io mi sia) per la mia lingua s' oda.

(a) Translate this stanza.

(b) Answer the following questions :—

*Indarno*, prose form? *piaghe*, name the singular; *veggio*, other form? name 16, and first person singular of 3 and of 4; *sien*, other form? give first person singular of 3 and of 4; *doglioso*, prose form? *seggio*, 16, and other forms of this tense and person; *rettor*, uncontracted form of noun? and from what verb? turn eighth line into passive; *condusse*, name 16, and first person of 13; *volga*, all tense 3, and 20; *lievi*, what singular? *apri*, give 16, first person of 3, and 20; *ntenerisci*, 16? *fa*, give whole tense with nominative pronouns; *s' oda*, express this passive in two other ways; also name 16 active.

## C. — (DANTE: Inferno.)

1. Dates, etc., for Dante, as required in A. 1, for Tasso.
2. Define concisely Italian Guelphs and Ghibelines.
3. State briefly the arrangement of Dante's Hell. No subdivisions.

## 4.

## CANTO III. 31-57.

Ed io ch' avea d' error la testa *cinta*,  
*Dissi* : maestro, che è quel ch' i' odo ?  
 E che gent' è che *par* nel *duol* s' *vinta* ?

Ed egli a me : questo misero modo  
*Tengon* l' anime triste di coloro  
 Che *visser* senza infamia e senza *lodo*.

Mischiate sono a quel *cattivo coro*  
 Degli angeli che non furon ribelli,  
 Nè fur fedeli a Dio, ma per sè *foro*.

Cacciàrli i ciel per non esser men *belli*,  
 Nè lo profondo inferno li *riceve*,  
 Ch' alcuna gloria i rei avrebber d' *elli*.

Ed io : maestro, che è tanto *greve*  
 A lor che lamentar li fa s' forte ?

*Rispose* : *dicerolti* molto breve.

Questi non *hanno* speranza di morte ;  
 E la lor cieca vita è tanto bassa  
 Che 'nvidiosi son d' ogni altra sorte.

Fama di loro il mondo esser non *lassa* :  
 Misericordia e giustizia gli sdegna.  
 Non ragioniam di lor, ma guarda e passa.

Ed io che riguardai, vidi una insegna  
 Che girando correva tanto *ratta*  
 Che d' ogni posa mi pareva indegna.

E dietro *le* venia sì lunga tratta  
 Di gente, ch' io non *averei* creduto  
 Che morte tanta n' avesse disfatta.

(a) Translate the Text.

(b) Answer the following questions :—

*Cinta*, 16, and first person of 8 ? *dissi*, name 20 ; *par*, first and second person singular of 3, and 20 ; *duol*, modern prose form ? *vinta*, 16 ? *tengon*, all tense 8, and first person of 4 ; *visser*, 16 ? 20 ? *lodo*, modern prose form ? *cattivo*, etymology ? English analogue ? *coro*, several meanings ? *foro*, modern prose form ? 20 ? *belli*, give two other forms of plural masculine, and uses of the three ; *riceve*, regular verb ? *elli*, modern word for this ? *greve*, modern form ? *rispose*, 16 ? 20 ? *dicerolti*, modern prose of this group ? *hanno*, all 15 ? *lassa*, modern prose form ? *ratta*, etymology ? *le*, parse and govern ; *averei*, write whole tense in modern form ; *ne*, parse.

## SPANISH.

ASST. PROF. NASH.

Josse's Grammar. — Prose Selections. — Gil Blas. — Spanish Prose Composition.

Three hours a Week. 10 Seniors, 6 Juniors, 3 Sophomores.

## SPANISH.

## KEY TO THE TENSES.

## INDICATIVE.

*Simple.*

1. Present.
2. Imperfect.
3. Preterite Definite.
4. Future Absolute.

*Compound.*

5. Preterite Indefinite.
6. Preterite Anterior.
7. Pluperfect.
8. Future Anterior.

## SUBJUNCTIVE.

9. Present.
10. Imperfect.
11. Future Conjunctive, Simple.

12. Preterite.
13. Pluperfect.
14. Future Conjunctive, Compound.

## CONDITIONALS.

15. 1st Conditional
16. 2d        "
17. 3d        "

} Present.

18. 1st Conditional
19. 2d        "
20. 3d        "

} Past.

## 21. IMPERATIVE.

## INFINITIVE.

22. Present.
23. Preterite.
24. Gerund.

25. Compound Gerund.
26. Participle Past.

## TEXT.

En fin, gracias al cielo, *llegó* al cabo de seis meses este dichoso día. El señor Rolando *dijo* á sus camaradas : Caballeros, es preciso cumplir la palabra que *dímos* al pobre Gil Blas. A mí me parece bien este muchacho, y espero que *tendremos* en él un hombre de provecho. *Soy de sentir* que mañana le *lleemos* con nosotros, para que dé principio á *coger laureles* en los caminos reales. Nosotros mismos le *hemos* de *poner* en el que *quita* á la gloria. Todos se conformáron con el parecer de su capitán; y *para hacerme* ver que ya me miraban como á uno de ellos, desde aquel momento me dispensáron de servirles. Restituyéron á la señora Leonarda en el empleo que ántes tenia, y de que la habian *exonerado* para honrarme á mí con él. Hiciéronme arrimar el vestido que llevaba encima, y consistia en una simple jaquetilla muy usada, y me acomodáron todos los despojos de un caballero que acababan de robar: despues de lo cual me dispuse á hacer mi primera campaña. — GIL BLAS.

1. Translate the Text as closely as you can, with due regard to the English idiom.

The Vocabulary for sentences required below is the Text given above. English words in Italics are not needed in Spanish.

2. *Llegó*, write, in full, tenses 1 and 9 of this verb; *dijo*, write, in full, tenses 4, 21, 26; *dímos*, tenses 1, 21, 22, in full; *tendremos*, tenses 1, 21, in full; *soy de sentir*, could *estoy* be substituted? *lleemos*, account for use of this mood here; *coger*, write tense 1 in full; *laureles*, name the singular; when are *nos* and *vos* used as nominatives instead of *nosotros* and *vosotros*? *hemos*, from what longer form is this contracted? also state the

difference in meaning between *haber* and *tener*; also what verbs take *haber* and what take *ser* as auxiliary; *poner*, write as negative reflective, with pronouns both nominative and objective (ex. gr., "I shall not place myself," "thou," etc.), tenses 4, 8, 9; *el que guía*, parse *el* in this clause; *y para hacerme*, (a) what other form of *y*, and when used? (b) difference in meaning between *por* and *para*, and between *porque* and *paraque*; (c) write, in full, tenses 1, 8, 15, 21 of *hacer*; *d uno*, account for preposition *d* here; *exonerado*, write as negative passive (ex. gr., "I am not loved") tenses 2, 7, 21 of this verb, with nominative pronouns throughout; *lo cual*, (a) define and illustrate the Spanish neuter gender; (b) use the neuter gender in the course of the following sentences in Spanish:—

However many jackets I might have had, I should have worn (*llevar*) this one.

I said what I said on this account.

3. Write in Spanish:—

- (a) *In the direct form*: They said (3) "we shall have in him a useful man."
- (b) *The same indirectly*: They said (3) that they should have in him a useful man.
- (c) It is (*haber*) more than six months that (*que*) they have been (*ser* or *estar*?) here (*aquí*). I have been hoping that you would arrive.
- (d) There is not a jacket more simple than mine. I say that his is very simple, the simplest of all. That one is much worn. Whose is it? Whose jacket is this?

4. Write the whole Declension (singular and plural) of the following nouns, with the definite articles throughout: *feminine*, *casa*; *masculine*, *hombre*.

### III. PHILOSOPHY.

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#### **PRESCRIBED STUDIES.**

##### **Prescribed Ethics.—PROF. PEABODY.**

Peabody's Moral Philosophy.

*Two hours a week. First half-year. Freshmen.*

##### **Prescribed Rhetoric.—ASST. PROF. A. S. HILL.**

Campbell's Philosophy of Rhetoric (Selections).—Whately's Rhetoric (Selections).—Herbert Spencer's Philosophy of Style.—Written Exercises.

*Two hours a week. First half-year. Sophomores.*

Whately's Rhetoric.

*Two hours a week. Second half-year. Juniors.*

##### **Prescribed Philosophy.—ASST. PROF. PALMER.**

Jevon's Logic.—Bain's Mental Science.

*Two hours a week. Juniors.*

*This Course was taken, as an Elective, by 26 Sophomores.\**

##### **Prescribed Themes and Forensics.**

**SOPHOMORE YEAR.** Six Themes: ASST. PROF. A. S. HILL.

**JUNIOR YEAR.** Six Themes: PROF. CHILD.

Four Forensics: ASST. PROF. PALMER.

**SENIOR YEAR.** Four Forensics: PROF. BOWEN.

*In place of Forensics Candidates for Honors could substitute an equal number of Theses in their special departments, provided such substitution was permitted by the Professors in those departments.*

##### **Prescribed Political Economy.—PROF. DUNBAR and MR. HOWLAND.**

Elements of Political Economy.—Constitution of the United States.

*Two hours a week. Second half-year. Sophomores and Juniors.\**

\* In 1873 the prescribed Study of Political Economy was transferred from the Junior to the Sophomore Year, and was pursued during the year 1873-74 by both classes.



## PRESCRIBED ETHICS.

(February, 1874.)

1. What arguments are urged against the freedom of the human will, and how may they be answered?
2. What are the Appetites, and what are their uses?
3. What constitutes the Right?
4. What is Conscience?
5. How does Habit contribute to the growth of character?
6. Define *Virtue*, the *virtues*, and the *cardinal virtues*.
7. What are our duties to God, and why are they due?
8. What is Patience, and how is it sustained?
9. Define *Casuistry*, and illustrate its abuse and its use.
10. Define the ethical principles and tendencies of the Epicurean and of the Stoic philosophy.

## PRESCRIBED RHETORIC.

(February, 1874.)

Attention will be paid to precision, clearness, and conciseness in expression; to method in arrangement; and to neatness of manuscript.

1. Discuss, in a brief essay that shall be intelligible to a person unacquainted with your text-books, the following topics, in their order:—

(a) Dr. Campbell's principles (to be summed up in a paragraph) concerning "the nature and characters of the use which gives law to language." Are they consistent with his condemnation of *by dint of, whether or no, dancing attendance, pell-mell, had rather?* If so, why? If not, why not?

(b) Perspicuity, what is it absolutely? what is it relatively? What are the dangers of extreme conciseness, and what those of prolixity? By what course may you avoid these extremes, and at the same time give to your composition that quality which is sometimes called *Energy*, sometimes *Vivacity*, and sometimes *Strength*?

(c) The Metaphor and the Simile. Distinguish between them; explain when the former is preferable to the latter, when the latter to the former, and when the two may be advantageously combined.

(d) Herbert Spencer's "law of easy apprehension," its corollary, and its qualifications. Apply the law to the order of words in a sentence, and in a group of sentences.

2. After punctuating the subjoined paragraph, show its merits or demerits in point of style; if you discover demerits, correct what seems to you to need correction:—

Half-way down a by-street of one of our New England towns stands a rusty wooden house with seven acutely-peaked gables facing towards various points of the compass and a huge clustered chimney in the midst the street is Pyncheon-street the house is the old Pyncheon-house and an elm-tree of wide circumference rooted before the door is familiar to every town-born child by the title of the Pyncheon-elm on my occasional visits to the town aforesaid I seldom fail to turn down Pyncheon-street for the sake of passing through the shadow of those two antiquities the great elm-tree and the weather-beaten edifice. — HAWTHORNE.

8. Discuss the proposal, in the following paragraph, to "say 'annexion' rather than 'annexation:.'"—

Oct. 4, 1873.

With these views I find the various processes of annexion only a natural manifestation to be encouraged always and to be welcomed under proper conditions of population and public opinion. I say "annexion" rather than "annexation." Where a word is so much used, better save a syllable, especially as the shorter is the better.

Ever sincerely yours,

CHARLES SUMNER.

4. Where correction is possible, correct the following sentences; where it is not possible, point out the errors in them: in every case, give your reasons:—

(a) A little harshness by the collision of consonants, which, nevertheless, our organs find no difficulty in articulating, and which do not suggest to the hearer the disagreeable idea either of precipitation or of stammering, are by no means a sufficient reason for the suppression of a useful term.—CAMPBELL's *Philosophy of Rhetoric*.

(b) To these was united a fixedness of purpose not to be shaken by menace or entreaty; and which was only to be redeemed from the imputation of obstinacy by the extraordinary circumstances in which he was placed.—PRESCOTT.

(c) She had known nothing better than he, and desired nothing better than to live with him.—ANTHONY TROLLOPE.

(d) It would have been worth while for the Mexicans to have made any sacrifice to have cut off or embarrassed the formidable reinforcement.—ARTHUR HELPS.

(e) There is an evident advantage in leaving the reader or hearer to complete the figure. And generally these intermediate forms are good in proportion as they do this; provided the mode of completing it be obvious.—HERBERT SPENCER's *Philosophy of Style*.

(f) You shall seldom find a dull fellow of good education, but (if he happen to have any leisure upon his hands) will turn his head to one of those two amusements for all fools of eminence, politics or poetry.—THE SPECTATOR.

(g) That gentleman with short, straight hair, which overhung his forehead, leaning on his sword with one hand, and a book open in the other hand, had served as representative of his county town in the Long Parliament.—BULWER.

(h) She had an album. . . . She had a large manuscript receipt-book—every quality, in a word, which indicated a virtuous and well-educated English mind.—THACKERAY.

(i) Before these methods were adopted, the unbridled imagination roamed through Nature, putting in the place of law the figments of superstitious dread.—TYNDALL.

(j) It was very uphill work for some time. The three Villiers and Romilly stuck to us for some time longer, but the patience of all the founders of the society was at last exhausted, except me and Roebuck.—J. S. MILL.

## PRESCRIBED THEMES.

Write not less than four, nor more than six, pages upon one of the following subjects:—

1. The Uses of Novels.
2. "Science moves, but slowly, slowly, creeping on from point to point."
3. The Elective Courses in Art.

## PRESCRIBED POLITICAL ECONOMY.

## POLITICAL ECONOMY.

Those who are also to pass in the Constitution may omit questions marked \*.

1. Define (a) wealth; (b) value; (c) price; (d) capital; (e) money.
2. What are the qualities which make gold and silver suitable materials for a currency? What are the objections to a double standard of value?
3. Explain the action of demand and supply upon the prices (a) of raw materials; (b) of manufactured articles.
4. Show how rents would be affected by suddenly doubling the productiveness of all lands under cultivation. Prove that rent does not enter into the price of agricultural produce.
5. State and illustrate the causes which produce a difference in the rate of wages in different employments.
6. Suppose the amount of the (gold) currency of a country to be suddenly doubled, what would be the effect upon (a) values; (b) prices; (c) exports and imports?
7. Define direct and indirect taxation. What are the objections to an import duty on raw materials? What is the incidence of a tax levied on the rent of land and paid by the tenant?
- \*8. Define productive and unproductive consumption. If the latter were to cease altogether, what would be the ultimate effect upon production?
- \*9. Show how the cost of labor is affected, (a) if the efficiency of labor is increased; (b) if the margin of cultivation sinks.
- \*10. What are the elements of which profits are composed? Why does the rate of profits vary (a) in different employments; (b) in different countries?
- \*11. Explain the several ways in which credit promotes production. What are the disadvantages of an irredeemable paper currency?
- \*12. Explain the use of bills of exchange. What is meant by an unfavorable balance of exchange?
- \*13. Discuss the question, whether temporary and permanent incomes should be taxed alike.

## CONSTITUTION OF THE UNITED STATES.

Those who are also to pass in Political Economy may omit questions marked \*.

- \*1. When and by whom was the Constitution framed, and what were the principal steps leading to its formation and adoption?
2. Define citizenship.
3. What changes have the abolition of slavery and the consequent amendments of the Constitution made in the system of representation?

4. State the method of electing the President, and the difference between the present method and that at first adopted.

\*5. By whom are questions settled which affect the validity of elections (a) of representatives, (b) of senators, (c) of President?

\*6. What provision does the Constitution make for the removal, death, resignation, or inability to serve of the President or Vice-President, or for a failure to elect either officer or both?

\*7. What powers over the militia are given to Congress or to the President?

8. What are the provisions of the Constitution affecting the subject of currency?

9. What are the provisions relating to taxation, and what are direct taxes under the Constitution?

\*10. What are the provisions relating to impeachment?

11. Under what provision did Congress claim and exercise the power of prohibiting slavery in the territories?

12. What is the extent of the judicial power of the United States, and where is it vested?

13. What is the provision for amending the Constitution?

## ELECTIVES.

### 1. Psychology.—PROF. BOWEN.

Locke's Essay on Human Understanding (Selections).—Cousin, Philosophie de Locke.—Mill's Examination of Hamilton's Philosophy.—Lectures.

*Three hours a week. 27 Juniors.*

### 2. Ancient Philosophy.—PROF. BOWEN.

Renouvier's Manuel de Philosophie Ancienne.—Ueberweg's History of Ancient Philosophy.—Nourrisson, Progrès de la Pensée Humaine.

*Three hours a week. (This Course was not given.)*

*This Course was only for students who took or had already taken Course 1.*

### 3. Schools of Descartes and Kant.—PROF. BOWEN.

Bouillier, Histoire de la Philosophie Cartésienne.—Kant's Critique of Pure Reason.—Ueberweg's History of Philosophy.—Lectures on French and German Philosophy.

*Three hours a week. 41 Seniors.*

### 4. Modern German Philosophy.—PROF. BOWEN.

V. Hartmann's Philosophie.—Schopenhauer's Die Welt als Wille und Vorstellung.

*Three hours a week. 2 Seniors.*

*This Course was only for students who took or had already taken Course 3.*

**5. Ethics.—PROF. PEABODY.**

Lectures.—Cicero de Officiis.—Calderwood's Hand-book of Moral Philosophy.

*Three hours a week. 13 Seniors, 1 Junior.*

**6. Political Economy.—PROF. DUNBAR.**

J. S. Mill's Political Economy.—Bagehot's Lombard Street.—Sumner's History of American Currency.

*Three hours a week. 70 Seniors, 1 Junior.*

Candidates for Honors in Philosophy were allowed to substitute Course 7 in Greek in place of one Elective in Philosophy.

**PHILOSOPHY 8.****MALEBRANCHE AND LEIBNITZ.**

*(Private Examination, February, 1874.)*

1. According to Malebranche, what is the source of man's errors, and how does he prove that neither God, nor our senses, deceive us? In what two-fold union does man exist, and how do our imaginations and our passions lead us astray? For what purpose only were the senses given to us?

2. How does he prove that we perceive only representative ideas of things, and not things themselves? how prove that the soul does not produce these ideas, and that they are not born with us, or innate? Then where and how do we perceive them? What sorts of ideas, evidently, cannot be perceived by sense?

3. How does Malebranche explain the hierarchy, or comparative value, of the different virtues? Are the various perfections of God all equal to each other; and why? Do eternal truths depend on the free-will and arbitrary decree of God; and why?

4. Explain briefly his theory of Occasional Causes, and the arguments on which it is founded. How is the objection answered, that this theory makes man irresponsible for his actions, and makes God the author of all the evil that is done in the world?

5. Describe the principal forms of the Idea of God, and show the consequences of adhering to either one of them, if taken separately, and how these consequences may be avoided. Analyze one of these forms into its component roots or elements, and trace the development of these elements.

6. What are the three axioms on which Leibnitz bases his philosophy, and how may these three be reduced to one? How does he distinguish the epithets *clear, distinct, adequate, true, and real*? What is his system of Optimism, and how is it proved?

7. How does he prove the conservation of force, and that the world is infinite both in space and time? What are Monads, and how is their indivisibility proved? What view is thus given of the essence both of Matter and of Mind, and of their relation to each other?

8. Why does he call each Monad a *microcosm*? Explain briefly his system of Pre-established Harmony, and its relations to the modern doctrine of the universality and immutability of Physical Law? What is the only possible *action* of a Monad? How does his definition of Substance differ from that given by Descartes?

9. According to this system of Monadology, what is a stone, a piece of iron, a crystal, a living organism, the human soul, &c.? In what respects is the system of Leibnitz an anticipation of that of Charles Darwin?

10. On this system, what is Death, what is Memory, what is Progress? How does Leibnitz reconcile the existence of evil with his doctrine of Optimism? In what sense is the present big with the future, — *præsens gravidus futuro*? Why cannot one Monad act on another? Before the appearance of human bodies, where and what were human souls?

### KANT AND THE POST-KANTIANS.

(Final Examination, June, 1874.)

1. What is the Absolute, or the Unconditioned? What is meant by saying that it is only a regulative or limitative idea, and that it is incognizable and inconceivable?

2. How do we schematize Quantity and Quality (the first two tables of the Categories), and what are the *à priori* fundamental principles of this schematization? What is the *schema* of Substance, of Cause, and of Reciprocity, in the third table, and what is the fundamental principle of each? What other and better *schema* than the one proposed by Kant, can be given for the Category of "Substance and Attribute"?

3. Explain the Paralogism of Rational Psychology, the Antinomies of Rational Cosmology (proving the thesis and antithesis of one of them, as an example); and the ontological, cosmological, and physico-theological proofs of the Ideal of Pure Reason, or Idea of God, together with Kant's objections to each of these three modes of proof.

4. How can every judgment (and hence every cognition) be explained as "thinking an object under a Concept"? What is the difference between empirical and *à priori* Concepts as thus employed (giving an example of each), and from what different sources are these two kinds of Concepts obtained?

5. How is Number, and hence all extensive magnitude, shown to depend upon the idea of Time; and how is this fact indicated in most languages?

6. Compare Fichte's philosophy with that of Descartes. Trace out briefly the reasoning by which Fichte establishes successively his three fundamental principles, and show how the third of these principles, when analyzed, affords a starting point for both a theoretical and a practical philosophy.

7. What defects in Schelling's system are pointed out by Hegel, and how does his own system assume to remedy these defects? Explain and comment upon his audacious assertion, that the office of Philosophy is to repeat the act of creation, and to afford "a representation of God as he was in his eternal essence, before the creation of the world or of any finite being."

8. What is the peculiar logic of Hegelianism, or the immanent dialectic of Pure Thought? Illustrate it by some examples taken from geometry, art, and physical science. Give some of the earlier trichotomies, whereby

Hegel, beginning with what is most abstract and universal, proceeds to create the universe in thought through this immanent dialectic.

9. According to Schopenhauer, what is the most general statement of the Principle of Sufficient Reason, and to what alone is it applicable? Write out a scheme or diagram of his explication of this Principle into its four roots, with their subdivisions. Explain precisely wherein the *causa essendi* differs from each of the other roots, and point out its relations to the mathematical sciences.

10. Why are Time and Space called *principia individuationis*? What farther proof is given by Schopenhauer of the unreality, the subjective character, of Time and Space? What two forms or modes of Time are confessedly unreal; and, admitting these two to be subjective, how much is left of Time?

## PHILOSOPHY 4.

### VON HARTMANN'S PHILOSOPHIE DES UNBEWUSSTEN.

(Final Examination and for Honors, June, 1874.)

1. How does Hartmann endeavor to prove that even consciously voluntary movements of the limbs can be effected only through an unconscious *Vorstellung und Wille*?

2. Wherein does Hartmann differ from Schopenhauer in respect to the connection between *Vorstellung und Wille*, and by what arguments does he seek to establish his theory?

3. What is the ultimate end or purpose of the animal kingdom, and for what reason is organic nature divided into a vegetable and an animal kingdom? Because some portions of an organism seem purposeless, or imperfectly conformed to their purpose, ought we therefore to deny that Final Causes are the guiding principles of the whole structure; and why?

4. According to Hartmann, are the various pains and pleasures of mind and body quantitatively or qualitatively different from each other; and why? What is his theory respecting the nature of Sensibility, and the existence of the so-called Emotions and Feelings? How does he explain seemingly causeless fits of depression and exhilaration, and also vague and irrepressible, but strong Emotion? Do we always know what we really desire? Prove your answers by examples.

5. What is a man's *Character*? Why do the same motives operate differently on different men, and on the same man at different times? According to Hartmann, is Morality a natural product, or a consciously created and external rule of conduct; and why?

6. Why must Language have been an organic and unconscious natural product? What is said of the philosophical value of grammatical forms, and what light do they shed on the processes of thought? Civilization and mental culture, — do they aid or impede the organic growth of Language? Is Language the creation of the many, or of the few? Could they consciously create or alter it?

7. Wherein does Hartmann modify Kant's doctrine of the subjective character of Space and Time; and for what reasons? Give some of his arguments for the probable real existence of an external world. Admit the reality of such a world, and what follows as to the Forms of Space and Time? But do we perceive those Forms by sense? Do we see the

images produced in the retina of our eyes? Why? How are the quantity and quality of the sensations affected, according as the stimulus is applied over a larger or smaller surface?

8. Can conscious reflection and consideration affect our character and conduct; and how? What facts and arguments prove the great value of conscious knowledge and reason in the management of our life, and what other facts manifest the importance of the Unconscious? Wherein is the harm, either of giving up all to the Unconscious, or of disregarding and overriding it altogether?

9. Enumerate some of the characteristics and excellencies of unconscious mental action. How may the few seeming mistakes of instinct be accounted for? What are the different relations of Memory, Will, and *Vorstellung*, or Intellect, to Consciousness and to the Unconscious? In the Unconscious, are Will and Presentation or Thought ever separated, and why?

10. Explain briefly the theory of atomistic dynamism, and how it reduces Matter to mere Will and Presentation. Of what only do the senses and the physical sciences take cognizance as constituting the primitive element of Matter? What must ideally or in thought precede every motion or physical force?

11. Give a summary of the arguments to prove the All-unity of the Unconscious. What are the relations of the Unconscious to Time and Space? Assuming Monistic or Pantheistic principles, what criticisms may be made upon the systems of Leibnitz, Kant, Fichte, and Hegel?

12. State briefly Hartmann's arguments to prove, first, the perfect wisdom of the Unconscious; secondly, that this world is the best of all possible worlds; and thirdly, that this world is so bad that its non-existence would be preferable to its existence.

## PHILOSOPHY 6.

1. If the recent efforts to promote emigration on a large scale among English agricultural laborers should be successful, what would be the effect on the price of food, the profits of farmers, and rent?

2. What is the reason for the expectation that both capitalists and laborers will be gainers from co-operation, and that neither will gain at the expense of the other? and how is this expectation to be reconciled with the general doctrine of Ricardo, that "the rate of profits depends on wages, rising as wages fall, and falling as wages rise"?

3. Is it desirable to collect a surplus revenue for the purpose of paying off a national debt, or should the amount be left "to fructify in the pockets of the people"? Give the reason.

4. Explain Mill's doctrine of the tendency of profits to a minimum, the causes which produce that tendency, and the circumstances which counteract it.

5. State the general law which determines the values at which a country exchanges its produce with foreign countries, and illustrate its application by the example of cloth and linen.

6. Explain the incidence of taxes on imports, and the arguments that may be drawn thence as to the policy of protecting duties.

7. Does or does not a protecting duty give additional employment to home labor? Give the reason.



8. Criticise the following passage from Adam Smith's "Wealth of Nations," Book II., chapter IV. :—

"The legal rate of interest, it is to be observed, though it ought to be somewhat above, ought not to be much above the lowest market-rate. [If it were much above] the greater part of the money which was to be lent, would be lent to prodigals and projectors, who alone would be willing to give this high interest. Sober people, who will give for the use of money no more than a part of what they are likely to make by the use of it, would not venture into the competition. . . . Where the legal rate of interest, on the contrary, is fixed but a very little above the lowest market-rate, sober people are universally preferred, as borrowers, to prodigals and projectors. The person who lends money gets nearly as much interest from the former as he dares to take from the latter, and his money is much safer in the hands of the one set of people than in those of the other. A great part of the capital of the country is thus thrown into the hands in which it is most likely to be employed with advantage."

9. A respectable newspaper remarks, that "the object of taxation is to make all property bear its equitable share." Is this a correct statement of the principle which should be followed in adjusting a system of taxation? Why, or why not?

10. What effect will high internal taxes have upon prices and upon values?

11. Explain the incidence of taxes laid on the rent of houses or stores, in a city where the value of land is great. Would the result be different if the tax were laid on the assessed value of the premises? Why, or why not?

12. Give the leading facts and dates in the history of the United States Bank.

13. Explain fully how the suspension of Peel's act of 1844 gives relief to the money market in a panic, and what relation it bears to a suspension of specie payment.

14. The dollar contains 23.22 grains of pure gold. A dollar in silver currency, if of full value, according to this standard should contain about 365.7 grains, but in fact contains only 345.6 grains of pure silver. How does this explain the somewhat tardy disappearance of silver change when our paper currency depreciated, and to what point must the value of the paper rise before silver can come back into general circulation?

15. State present limits of our paper currency, and discuss the objections to such a currency when, like ours, it is redundant and depreciated, and has a maximum fixed by law.

## HONORS IN PHILOSOPHY.\*

PHILOSOPHY—PROF. BOWEN.

(May, 1874.)

1. State briefly, and contrast with each other, the definitions or explanations of *Substance*, *Matter*, and *Mind*, which are given respectively by Descartes, Spinoza, and Leibnitz.

\* See also the paper of *Philosophy* 4.

2. Give a brief outline of the system of Monadology, showing how it rests upon the three axioms of the Leibnitzian philosophy.

8. Distinguish *Immanent* from *Efficient*, and both from *Occasional*, Causes. What is Malebranche's theory of "intelligible extension," and of Occasional Causes?

4. Describe briefly the three cognitive faculties of the mind, and the peculiar functions of each according to Kant. Distinguish the Matter and the Form of Knowledge. What is *Pure Reason*, *Pure Thought*, &c.? What is the relation of Knowledge to Experience? What are "synthetical judgments *à priori*," and why are they so called?

5. Prove that both Space and Time are *à priori* and subjective in character, and that they are Intuitions, and not Concepts. Show how Arithmetic is a science of Time, as Geometry is of Space. What does Kant mean by asserting the *empirical reality*, and also the *transcendental ideality*, of Time and Space? Prove that he has no good ground, even on his own principles, for denying the objective validity of our cognition of either. What is meant by saying that Time and Space are *principia individuationis*?

6. Analyze particularly the three Categories in the table of Relation, showing how each of them contributes to make physical science possible.

7. What is Kant's position in the dispute as to the relative authority of the Understanding and the Faculty of Sense? Which is so far the superior as to furnish the tribunal or test by which to try the conclusions of the other? How does he refute the doctrines of the Empiricists, and of the Dogmatists, and how far does he accept the conclusions of either?

8. What are the three Transcendental Ideas (forms of the Unconditioned) of Pure Reason? From what logical forms are they derived? How are they so derived?

9. Show that volition, unlike cognition, is determinable by pure notions and principles, independently of experience. What is the Categorical Imperative, and how is it related to the Freedom of the Will? What is the empirical Will?

10. Distinguish the Productive from the Reproductive Imagination, and show how the Understanding needs the aid of one of them in order to form an intelligible Object of Experience out of a Manifold of Intuition.

11. What is a Philosophy of the Absolute, and how is it related to Empirical Philosophy on the one hand and to the Critical Philosophy on the other? How is the philosophy of Schelling related to that of Fichte and Kant, and what tendency of the age, appearing in history, philosophy, and art, is fully represented in it? What theories and tendencies of physical science since Schelling's day have resulted directly or indirectly from his philosophy?

## IV. HISTORY.



### **PRESCRIBED HISTORY.**

**SOPHOMORE YEAR. — MR. HOWLAND.**

Outlines of General History.

*Two hours a week. First half-year.*

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### **ELECTIVES.**

**History 1. — MR. HOWLAND.**

Later Roman and early Mediæval History.

*Two hours a week. 85 Sophomores.*

**History 2. — ASST. PROF. ADAMS.**

The General History of Europe from the Tenth to the Sixteenth Century.

*Three hours a week. 8 Seniors, 65 Juniors.*

**History 3. — ASST. PROF. ADAMS.**

Mediæval Institutions.

*Three hours a week. 5 Seniors, 7 Juniors.*

*This Course was only for Candidates for Honors.*

**History 4. — ASST. PROF. ADAMS.**

History of England to the Seventeenth Century.

*Three hours a week. 19 Seniors.*

**History 5. — PROF. TORREY.**

Modern History (Seventeenth Century and first half of the Eighteenth).

*Three hours a week. 50 Seniors, 4 Juniors.*

**History 6. — PROF. TORREY.**

Modern History (from the Middle of the Eighteenth Century).

*Three hours a week. 84 Seniors, 1 Junior.*

## HISTORY 1.

Answer I., IV., IX., XII., together with two more under (A.) and two more under (B.); i.e., precisely eight questions in all; keeping, however, the printed numbers. Give dates wherever pertinent.

## (A.) POLITICAL.

I. Draw a map of the Empire for the year 335, A.D., marking the natural, or other (outer), boundaries, the several Prefectures and Dioceses, and the position of the four chief cities of the East.

(II.) Give a concise account of Persia's collisions with Rome in the third century, with results of the war of 260, A.D.

(III.) Synopsis of reigns (1) of Valens; (2) of Theodosius the Great.

IV. Give (in three or four lines for each person) as complete a biography as possible of (1) Alaric; (2) Attila; (3) Aëtius; (4) Genseric; (5) Ricimer; (6) Theodoric (the Ostrogoth); (7) Belisarius; (8) Alboin; (9) Heraclius (Byzantine).

(V.) Clovis.

(VI.) (1) Outlines of Visigothic history for one hundred years from their sack of Rome; (2) The Saracen Conquest of Southwestern Europe.

## (B.) CONSTITUTIONAL.

*Augustus to Constantine.*

(VII.) (1) Occasional importance of Senate in third century; (2) Senatorial and Imperial Provinces; (3) The Edictum Perpetuum.

*Constantine to Justinian.*

(VIII.) General character and results of Constantine's reforms.

IX. The financial functions of Praefectus Praetorio; of Comes Rerum Privatarum; of the Curiae. Indictio and Superindictio.

(X.) (1) Defensor Civitatis; (2) Ordo Decurionum; (3) Condition of Cities in the fourth and fifth centuries, and after the Teutonic Conquest.

(XI.) The Coloni: Origin; Status; Increase in numbers from several causes.

XII. (1) Jurisdiction of Praefectus Praetorio; of Vicarius; of Rector Provinciae; of Rationalis. (2) Who were the *Judices spectabiles*, and what was the (judicial) consequence of their rank?

(XIII.) Germans in Empire as Coloni, Laeti, Gentiles, and Foederati.

*Teutonic States.*

(XIV.) (1) Influence of Invasion and Settlement on the Germanic Constitution in general; (2) Status (after settlement) of Roman and Vandal; of Roman and Burgundian; of Roman and Visigoth (towards A.D. 700).

## HISTORY 2.

Map of France: mark the Royal Domain, Normandy, Brittany, Flanders, Anjou, Artois, Champagne, Vexin, Picardy, Burgundy, Maine, the Cotentin, Guienne, Toulouse (county), Navarre, Poitou, Marche, Au-

vergne, Saintonge, Limousin, Venaissin, Provence (marquisate), Provence (county), Gascony, Berry, Bourbonnais, Paris, Laon, Orleans, Calais, Rouen, La Hogue, Angers, Blois, Montereau, Rheims, Tours, Bouvines, Crecy, Agincourt, Troyes, Amiens, the ford of Blanche Tache, Nantes, Peronne, Cambrai, Chateau Gaillard, Abbeville, Lyons, Toulouse, Bordeaux, Albi, Beziers, Avignon, La Rochelle, Poitiers, Narbonne, Aigues Mortes, Bourges, Vienne, Clermont, Dijon.

#### GERMANY.

1. The connection of Lothringen with France.
2. Changes made by Otto II. on his accession; dukes deposed; new dukes created.
3. Acts of Otto III. which destroyed his authority in Germany.
4. Interview of Henry III. with the King of France in 1056; its consequences.
5. Did Henry IV. or Gregory VII. profit most by the submission at Canossa?
6. Genealogy of the Kings of Provence.

#### THE CHURCH.

7. Origin of the False Decretals.
8. Why did Agapet call on Otto I. for assistance? why did Otto not come to Rome?
9. John XV.; dispute about the archbishopric of Rheims; attitude of Gerbert.
10. The mode of papal election previous to 1059; change made in that year, and why?
11. Precedents for the papal right to depose or excommunicate kings previous to the time of Gregory VII.

#### FRANCE.

12. What kingdoms existed in Europe in 887? under what kings?
13. The first line of dukes in Burgundy.
14. When and by what right did the French kings acquire Normandy?
15. Effects of the Albigensian crusade; how and when did it increase the territory of the French king?
16. Increase of territory under Philip the Fair.
17. Third line of dukes in Burgundy.
18. The Treaty of Troyes (1420).

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### HISTORY 3.

ROMAN INSTITUTIONS.—1. History of testamentary succession in Roman Law; forms of will. 2. Roman origin of contracts, *Nexum* and *mancipatio*; the historical alliance between contracts and conveyances. 3. *Emphyteusis, agri limitanei*, patron and client. 4. Status and contract; show how "the movement of progressive societies has been from status to contract."

SALIC INSTITUTIONS.—5. The family in the *Lex Salica*. Probable mode of reckoning relationship; evidences for or against probable distinction of agnates and cognates. 6. Nature of paternal authority in the

Lex Sal. Its probable limits. 7. Salic land; tenure of land; Lex Sal. 59, *De Alodis*. Meaning of the word Alod. Illustrate the Salic idea of property as applied to land, by Lex Sal. 58, *De Chrenecruda*. 8. The Salic contract; its private and judicial application. Illustrate by Lex Sal. 50, *De fides factas*. 9. *Homo in truste dominica*, Lex Sal. 53, and elsewhere. *Vassus* in Lex Sal. 35, 5.

MEROVINGIAN AND CARLOVINGIAN INSTITUTIONS. — 10. Outline of all the reforms of Charlemagne. 11. Immunities; to what extent did they alter the relations of citizens or lands to the State? 12. Origin of the feudal courts of *haute et basse justice*; to what earlier courts do they correspond? 13. Give some instances of the law of primogeniture from the French *coutumes*.

### HISTORY 4.

Map of England, showing the great earldoms at the death of Edward the Confessor, with places important for the reign of Harold.

### POLITICAL.

1. The conversion of Kent to Christianity; of Northumbria; of the other kingdoms; why two bishops in Kent?

2. End of the Danish invasions under Alfred and Edward the Elder; settlement of Normandy.

3. The claimants to the throne on Edmund's death, and claim of each.

4. Leofric; Siward.

5. The descendants of Ethelred II. to the Conquest.

6. Edwin and Morkere.

7. Lanfranc; Hildebrand (his connection with William the Conqueror).

8. The three marriages with the house of Anjou in the reign of Henry I.

9. Bouvines; its effect on English politics.

10. Simon de Montfort; how was he Earl of Leicester? his connection with the royal family.

11. The council of Norham and Edward's decision; criticise it.

12. Edward I. and Edward III.; compare them.

13. Compare the campaign of 1415 with that of 1846.

### LEGAL.

1. The ceorl; thegn; eorl.

2. The hundred-gemot; who sat in it? its jurisdiction.

3. The Seir-gemot; who composed it? its jurisdiction.

4. Sac and soc; toll and theam; infangentheof.

5. The Curia Regis; its origin and development; its jurisdiction.

6. The Exchequer; its officers.

7. Justices in Eyre; where did they sit? decline of Sheriff.

8. Assize of Northampton.

9. Magna Charta; its provisions as regards personal liberty.

10. Provisions for enforcing Magna Charta.

## HISTORY 5.

A number marked with an asterisk may be substituted for the *same* number not so marked.

1. It has been said that Charles II. of England "wanted to be absolute on the French plan." Note some points in the progress of the royal power and of centralization in the reign of the first three Bourbon kings.

1.\* "The victories of Eugene and Marlborough, the humiliations of Gertruydenberg, and the concessions of Utrecht were all [in part] the direct results of the Dragonnades and the Revocation of the Edict of Nantes."

2. Scotch forces in England (1640-1745): why, when, where, and with what effect?

2.\* The relations between England and Holland from the death of Charles I. to the death of Anne.

3. The condition of the Non-conformists under Charles II., James II., and William III. Follow mainly the series of Parliamentary Acts affecting them, and date the two most important of those Acts.

Note the distinction between Toleration and Comprehension.

4. Take up *four* of the following paragraphs: —

"The Cavaliers hated him [Clarendon] on account of the Bill of Indemnity, and the Presbyterians for that of Uniformity."

"The matter of the Declaration of Indulgence [1672] exasperated one half of his [Charles II.'s] subjects, and the manner the other half." "All the enemies of religious freedom, and all the friends of civil freedom, found themselves on the same side."

"The monarchy lay, as it were, in abeyance from the twenty-third of December [1688] to the thirteenth of February [1689]."

State and connect the three parts of which the Declaration of Right consists.

"The Declaration of Right(s) was indissolubly connected with the Revolution-settlement, as its motive and condition."

"Our Constitution was won on the Boyne."

5. Who were the rival claimants of the throne of Spain after the death of Charles II. in 1700; and on what did each found his claim? In 1712 "a sickly child alone stood between the king of Spain and the heritage of Louis the Fourteenth." The opponents of a peace contended that "it was in Flanders that Castile should be conquered." Show by a table how James II. was related in blood to Louis XIV., and George I. to James II.

6. The occasion and issue of the trial of Vane; the impeachment of Clarendon; the trial of Lord Russell; the case of Sir Edward Hales; the trial of the Seven Bishops; the impeachment of Sacheverell; the impeachment of Oxford (Harley); the bill of pains and penalties against Atterbury. (Take *six*.)

7. Name in the order of time *five* treaties that were concluded in the period of Louis XIV.'s reign, and show their importance in the history of Europe.

7.\* Show how the Privy Council was in a great measure superseded by a Cabinet, and how the personal authority of the Crown was diminished.

## HISTORY 6.

A number marked with an asterisk may be substituted for the *same* number not so marked.

1. Mr. Pitt said in 1783: "This House is not the representative of the people of Great Britain. It is the representative of nominal boroughs; of ruined and exterminated towns; of noble families; of wealthy individuals; of foreign potentates." Give some illustrations of this passage, and then show how popular principles were kept alive under such conditions.

1.\* The old and the new Colonial Policy of England; her old and her new Financial Policy.

2. Collisions of real or assumed Parliamentary Privilege with Personal rights, with the jurisdiction of the Courts, with the rights of Constituencies. Cite and describe instances or cases, and fix the time of each. Distinguish between the power of a single House and that of the whole Parliament.

2.\* Parliamentary control over the Executive in general, and specially in regard to particular exercises of the Prerogative.

1\* or 2.\* The course and character of Penal Legislation in England; the "Criminal Code."

3. Compare the Articles of Confederation with the Constitution of the United States in the following particulars: Stages and Mode of Adoption; Rule of Representation; Rule of Voting in Congress; Taxing; Mode of Amendment.

4. The overthrow of the Slave Trade and of Slavery, as recognized or effected, *under English rule or the authority of the United States*, by formal judgments, by direct legislation, or by constitutional provisions. Give a brief account of the origin of that clause in the Constitution which begins with these words: "The migration or importation of such persons."

5. Trace the course of our Revolutionary War by periods of time and changes of place; naming, placing, and dating, as you proceed, the most important operations, battles, and capitulations.

5.\* Give an orderly account of the difficulties of the United States as a Neutral Power.

6. What took place in 1783, 1787, 1803, 1819(-21), 1842, 1846, 1848, 1867, by way of increase of our national territory, settlement of our boundaries, or organization of our acquisitions?

7. Specify, describe, or explain *six* of the following: (1) Shays's Rebellion; (2) the provision made for the Public Debt in Washington's first term; (3) the troubles in Pennsylvania; (4) the Presidential Election in 1801; (5) the Embargo; (6) the Treaty of Ghent; (7) the Independent Treasury; (8) the terms of the Compromise of 1850.



## V. MATHEMATICS.

### PREScribed MATHEMATICS.

#### FRESHMAN YEAR.

##### 1. — ASST. PROF. SEAVER.

Solid Geometry (Peirce). — Elements of Analytic Geometry (Peck).  
*Two hours a week.*

##### 2. — ASST. PROF. C. J. WHITE.

Logarithms. — Plane Trigonometry (Chauvenet). — Algebra (H. Smith).  
*Two hours a week.*

### SOLID GEOMETRY.

(January, 1874.)

1. If a plane is perpendicular to a line, it is perpendicular to every plane containing that line.

2. The intersections of two parallel planes with a third plane are parallel lines.

3. Parallel sections of a pyramid are proportional to the squares of their distances from the vertex.

4. Two pyramids having equal bases and altitudes are equivalent.

5. Two pyramids having equivalent bases and equal altitudes are equivalent.

6. The convex surfaces of similar prisms, pyramids, cylinders, or cones, are proportional to the squares of their altitudes.

7. If two spherical triangles on the same sphere have a side and two adjacent angles of the one equal respectively to a side and two adjacent angles of the other, the two triangles are equal, or else they are symmetrical. Explain symmetry. Show that two symmetrical isosceles triangles on the same sphere are equal.

8. Two symmetrical spherical triangles are equivalent.

9. When the faces of a regular polyhedron are pentagons, there must be how many of them? State and prove.

10. The surface of a sphere is given  $= a$ : what is the surface of another sphere whose volume is  $\frac{m}{n}$ ths as great?

# ANALYTIC GEOMETRY.

## SECTION A.

1. When are the two lines  $Ax + By + C = 0$ , and  $A'x + B'y + C' = 0$  parallel to each other? When perpendicular to each other? Write down the equation of a straight line that is parallel to the axis of  $x$ ; parallel to the axis of  $y$ ; parallel to the line  $3x - 4y + 12 = 0$ . Write down the equation of a straight line that passes through the origin in *any* direction; that passes through the point  $(2, 3)$  in *any* direction.

2. The vertices of a triangle are  $(2, 1)$ ,  $(3, -2)$ ,  $(-4, -1)$ ; find the angles.

In the same triangle, find the equation of the perpendicular to each side at its middle point. Find where these three perpendiculars intersect.

3. Find the equation of a circle circumscribed about the triangle  $(2, 1)$ ,  $(3, -2)$ ,  $(-4, -1)$ . Find its radius, and the co-ordinates of its centre.

4. Discuss briefly the equation  $\rho = \frac{2}{1 - \cos \phi}$ . Lay down a few points, and draw the curve.

5. The equation of an ellipse is  $\frac{x^2}{25} + \frac{y^2}{9} = 1$ . Find and discuss the polar equation, the pole being at either focus. Lay down eight points (or more) and draw the curve.

6. Define the Hyperbola, and deduce from the definition its general rectangular equation.

*Example.* — If the foci are at the distance 20 apart, and the constant difference = 16, what is the equation? What is the eccentricity? the parameter? Draw the curve with its asymptotes, foci, and directrices.

7. The equation of an hyperbola is given  $\frac{x^2}{64} - \frac{y^2}{36} = 1$ ; write down the equation of the conjugate hyperbola. Turn both equations into polar co-ordinates (pole at the centre) and discuss them. Notice, in particular, how you find the asymptotes from these polar equations.

8. Find, in a general form, the equations of the tangent and the normal to an ellipse, at a point  $(x' y')$  on the curve.

*Example.* — Verify that the point  $(5, 3\frac{1}{2})$  is on the ellipse  $\frac{x^2}{49} + \frac{y^2}{24} = 1$ , and find the equations of the tangent and the normal at that point. Find the subtangent and the subnormal.

9. Prove that the normal bisects the angle between the focal radii of an ellipse, and that the tangent does the same in the hyperbola.

*Example.* — In the ellipse last given find the focal radii of the point  $(5, 3\frac{1}{2})$ , and show that the angle between them is bisected by the normal.

10. What curve is represented by the equation

$$(x - 5)^2 + y^2 = \frac{1}{3}x^2?$$

Transform to parallel axes through the centre of the curve. Find the axes and parameter. Draw the curve and lay down the foci and directrices.

## SECTION B.

1-4. Answer the first four questions given to Section A.

5. The equation of a circle is  $x^2 + y^2 = 36$ . Transform to a parallel set of axes through the left-hand vertex. Transform the result to polar co-ordinates, and construct the circle from this polar equation.

6. The distance from the vertex to the focus of a parabola being 7, what is its equation? What is the parameter? Draw the curve.

7. Find the co-ordinates of the points where the line  $x - y - 2 = 0$  cuts the circle  $3x^2 + 3y^2 - 4x - 8y - 10 = 0$ . Draw a figure.

8. Find the equation of a straight line which passes through the point (3, 4) and makes an angle of  $45^\circ$  with the line  $4x - 2y + 5 = 0$ . Draw a figure.

9. The distance between the foci of an ellipse is 12, and the string by which it is described is 14, in length: what is the equation of the curve? Find the eccentricity and the parameter.

10. Discuss the equation  $\rho = \frac{8}{1 - \frac{1}{2} \cos \phi}$ . Lay down a few points and draw the curve.

## ALGEBRA AND TRIGONOMETRY.

1. Solve the equations  $\sqrt{\frac{y}{x}} + \sqrt{\frac{x}{y}} = \frac{1}{2}$ ,  $x^2 + y^2 = 4(1 + xy)$ .

2. In any quadratic equation  $x^2 + px + q = 0$ , prove to what the sum of the roots is always equal.

In the equation  $8x^2 + 4x - 5c = 0$ , what value of  $c$  will make the roots of the equation equal, and what will the roots be? What values will make the roots imaginary?

3. Obtain all the positive integral values of  $x$  and  $y$  which will satisfy the equation  $5x + 8y = 98$ .

4. Form the equation whose roots are 0, 3,  $2 + \sqrt{-5}$ ,  $2 - \sqrt{-5}$ .

5. In an arithmetical progression the second term is 5, and the fifth term is -4. Of how many terms is the sum -636?

6. The number of permutations of  $a$  things, taken 5 at a time, is 120 times the number of combinations of  $a$  things, taken 3 at a time. Find  $a$ .

7. Find the sixth term of  $(3x - 2y)^{2n+3}$ .

8. The sine of an angle  $x$  (in the first quadrant) is  $\frac{1}{2m}$ . Find the functions of  $(180^\circ + x)$ . Find also  $\sin 2x$  and  $\cos 2x$ .

9. Obtain from fundamental formulæ,

$$\frac{\cos(x+y)}{\cos(x-y)} = \frac{\cot x \cot y - 1}{\dots\dots\dots}$$

10. Two sides of a plane oblique triangle are 2 and  $\sqrt{8}$ , and the angle opposite the first side is  $30^\circ$ . Find the other angles.

When, in general, are there two solutions in this case? If there are two in the present instance, give them.

11. Given the formulæ

$$\begin{aligned} b^2 &= a^2 + c^2 \dots, \\ 1 + \cos x &= 2 \cos^2 \frac{1}{2}x, \\ s &= \frac{1}{2}(a + b + c); \end{aligned}$$

obtain the formula

$$\cos^2 \frac{1}{2}B = \dots$$


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### ELECTIVES.

#### Mathematics 1.—PROF. J. M. PEIRCE.

Differential and Integral Calculus (Elementary Course).

*Two hours a week. 2 Juniors, 28 Sophomores, 2 Freshmen.*

#### Mathematics 2.—ASST. PROF. SEAVER.

Analytic Geometry (Salmon's Conic Sections, Chapters I.-III., V.-VII., X.-XIII.).—Elements of Analytic Geometry of Space.—Spherical Trigonometry.

*Two hours a week. 1 Junior, 18 Sophomores, 1 Freshman.*

#### Mathematics 3.—ASST. PROF. C. J. WHITE.

Practical Applications of Trigonometry.—Principles of Surveying.—Spherical Trigonometry.—Applications of Spherical Trigonometry to Astronomy and Navigation.

*Two hours a week. 1 Senior, 8 Juniors, 32 Sophomores, 6 Freshmen.*

#### Mathematics 4.—PROF. J. M. PEIRCE.

Exercises in Algebra and Trigonometry.

*One hour a week. 2 Seniors, 4 Juniors, 5 Sophomores, 7 Freshmen.*

#### Mathematics 5.—PROF. J. M. PEIRCE.

Differential and Integral Calculus (Functions of Complex Quantities; Series; Methods of Integration).

*Two hours a week. 4 Seniors, 4 Juniors, 2 Sophomores.*

Exercises in the Differential Calculus.

*One hour a week. 4 Seniors, 9 Juniors, 2 Sophomores.*

#### Mathematics 6.—PROF. J. M. PEIRCE.

Mechanics (Kerr, to page 200).

*Two hours a week. 2 Seniors, 11 Juniors, 8 Sophomores.*

#### Mathematics 7.—PROF. EUSTIS.

Descriptive Geometry, Shades and Shadows, and Perspective.

*Two hours a week. 5 Seniors, 5 Juniors.*

**Mathematics 8.—PROF. B. PEIRCE.**

General Principles of Geodesy.

*Two hours a week. 4 Seniors, 2 Juniors.*

**Mathematics 9.—PROF. J. M. PEIRCE.**

Analytic Geometry of Three Dimensions (Salmon, Chapters I-VI;  
Lectures on Contact and Curvature in Space).

*Two hours a week. 5 Seniors, 3 Juniors, 1 Sophomore.*

**Mathematics 10.—PROF. J. M. PEIRCE.**

Mechanics (Course 6 continued).

*Two hours a week. 8 Seniors.*

**MATHEMATICS 2.**

1. Are the lines which meet the conic

$$x^2 + 2xy - 2y^2 - 4x - y + 10 = 0$$

at infinity real or imaginary? Find the central equation of this curve. Find the equations of the asymptotes and that of the principal axes of this curve.

2. Prove that when the axes are turned so as to make the term in  $xy$  disappear from the general equation (or central equation) of a conic, the new axes will bisect the angles between the asymptotes.

3. Reduce the following equations to the simplest forms, and draw the sets of axes used:—

$$\begin{aligned} \text{(i.) } & x^2 - xy + y^2 - 3x - 3y = 0, \\ \text{(ii.) } & x^2 - 2xy + y^2 - 8x + 16 = 0. \end{aligned}$$

4. Discuss the rectangular and the polar equations of the Hyperbola. The form of the curve. Asymptotes. The Conjugate Hyperbola. The eccentricity and the angle between the asymptotes. The distance measured on an ordinate between the hyperbola and the asymptote. Prove that this distance vanishes when  $x = \infty$ .

5. Prove that the diagonals of a complete quadrilateral are divided harmonically by each other and the vertices of the quadrilateral.

6. Construct geometrically the polar of a given point. Draw two figures, one for a point inside and another for a point outside the given conic, which for ease of construction may be a circle.

To draw a pair of tangents from a given point.

7. To find the lengths of perpendiculars on the tangent at  $x'y'$  from the centre and from the foci. [Given, for the purpose of making reductions,

$$b^2 = \frac{b^2 x'^2}{a^2} + \frac{a^2 y'^2}{b^2}.]$$

By aid of your results prove that the focal radii make equal angles with the tangent.

8. What are the loci in space of the equations (i.)  $8x - 4y = 7$ ,  
 (ii.)  $3z - 5 = 0$ , (iii.)  $x - z = 0$ , (iv.)  $\begin{cases} x - y = 0, \\ y - z = 0, \end{cases}$  (v.)  $\begin{cases} x = 0, \\ y = 0, \end{cases}$   
 (vi.)  $2x^2 + 2y^2 + z^2 = 8$ , (vii.)  $x^2 + y^2 = r^2$ ,  
 (viii.)  $ax^2 + ay^2 - (z - b)^2 = 0$ , (ix.)  $x^2 + y^2 + z^2 = r^2$ .

9. Find the line of intersection of the two planes

$$\begin{aligned} 2x - y + z &= 8, \\ x + 2y + z &= 5, \end{aligned}$$

and explain your method.

10. Find the equation of the hyperboloid of revolution of one nappe. Discuss this equation by the method of parallel sections. Show that in certain cases the section of this surface by a plane is a pair of intersecting lines.

### MATHEMATICS 8.

1. From a point, on a level with the foot of a tower, the elevation of the top of the tower is  $32^\circ 49' 38''$ ; from a second point, 21 feet above the first point, the elevation of the top of the tower is  $21^\circ 14' 37''$ . Find the height of the tower.

2. Leaving lat.  $38^\circ 49' S.$ , long.  $42^\circ 17' W.$ , a ship sails S.S.E.  $\frac{1}{2} E.$ , making a departure of 169.3 knots. Find the distance, and the position reached.

3. In the spherical triangle  $ABC$ , right-angled at  $C$ , the side  $a$  equals the angle  $A$ . Solve the triangle.

4. The declinations of four stars are (1)  $20^\circ N.$ ; (2)  $70^\circ S.$ ; (3)  $40^\circ S.$ ; (4)  $80^\circ N.$  Find the meridian altitude and bearing of each star at lat.  $40^\circ N.$

At the same latitude, what is the declination of a star which passes through the zenith? What is the declination of a star which has a meridian altitude of  $20^\circ$ , bearing S.? What stars never come above the horizon? What stars never pass below it?

5. Find at what time Saturn rises and sets in lat.  $38^\circ 47' N.$ , when its declination is  $17^\circ 18' S.$ , its right ascension is 20h. 42m., and the sun's right ascension is 8h. 41m.

6. Obtain, by Napier's and Bowditch's rules, formulas for finding  $A$  and  $a$  in the spherical oblique triangle  $ABC$ , given  $B, C$ , and  $c$ . Why, in general, are there two solutions? When will there be only one?

7. In lat.  $42^\circ 47' S.$ , in the forenoon, the sun's altitude is  $16^\circ 49'$ , its declination is  $21^\circ 19' N.$ , and the Greenwich time is 10h. 17m. 48s., P.M. Find the longitude.

$$\begin{aligned} s'' &= \frac{1}{2} (L + p + a), \\ \sin^2 \frac{1}{2} h &= \cos s'' \sin (s'' - a) \sec L \csc p. \end{aligned}$$

8. Given the moon's right ascension 21h. 17m., its altitude  $17^\circ 17'$  (bearing N.), its declination  $8^\circ 42' N.$ , the sun's right ascension 17h. 16m., and the local time 8h. 17m. 28s., P.M.; find the true latitude, assuming it to be about  $30^\circ S.$

$$\cos (L - d) = \sin a + 2 \cos L \cos d \sin^2 \frac{1}{2} h.$$

9. Obtain the formula of the preceding question from the astronomical triangle.

## MATHEMATICS 5.

(February, 1874.)

1. What are the values of the positive and negative integral powers of  $\sqrt{-1}$ ? Give all the values of its *third root*, in the form  $x + yi$ .

Prove the trigonometric formulas for  $\cos m\phi$  and  $\sin m\phi$ , in terms of powers of  $\sin \phi$  and  $\cos \phi$ .

2. Prove the general formulas for  $a^z$  and  $\log z$ ; and show that the former is a periodic function. How many values does  $\log z$  admit for every value of  $z$ ; and in what case does it admit a *real* value?

Define the potential sine, cosine, and tangent, in terms of exponential functions, and in terms of trigonometric functions. What are their values when  $z = 0$ ?

3. Define the terms: *monodromic*, *monogenic*, *syntetic*.

Prove the analytic conditions under which a function is monogenic. Apply them to the functions  $a^z$  and  $\text{conj } z$ .

4. Determine the limits of convergence of the following series: —

$$\sum \frac{x^k}{k!}, \quad \sum kx^k, \quad \sum \frac{2^k x^k}{k}.$$

5. State the conditions under which  $fz$  is developable in convergent series arranged according to positive integral ascending powers of  $z$ .

The demonstration depends on the integration of *what auxiliary function*?

Assuming that the auxiliary function is syntetic, continue the demonstration so far as to obtain the required series, without showing that that series is convergent.

6. State the various forms of Taylor's Theorem.

Develop  $\log(1+z)$  and  $\cos z$ , determining the circle of convergence for each series.

State Taylor's Theorem for a function of several variables.

7. Show that if  $fz = \infty$  when  $z = a$ , while its reciprocal is syntetic, it is developable in a certain series which is partly fractional, and find the forms of the numerators.

8. Prove the formula for the change of the variable in integration.

9. Integrate the following functions: —

$$6x^3 - 4x + 2 - \frac{3}{x} - \frac{6}{x^2} + 2\sqrt{x} - \frac{4}{\sqrt[3]{x^2}};$$

$$\frac{2x^4}{(x-1)^2}; \quad \frac{14x}{(x-2)(3x+1)}; \quad \frac{1}{(x^2+4)^3}.$$

(June, 1874.)

Students who are to be examined in both courses will take the *starred* numbers.

## ONE-HOUR COURSE.

1. Differentiate  $\log \frac{\sqrt{1+x} + \sqrt{1-x}}{\sqrt{1+x} - \sqrt{1-x}}$ .

2. Find the value of  $\sqrt{x^2/\tan x}$  when  $x = 0$ .

\*3. Through a given point, which lies within a given angle, to draw a line so that the area of the triangle formed shall be a minimum.

Reduce the solution to a simple geometric construction.

\*4. Given the curve  $3y = 5x + 3x^2 - 2x^3$ ; find the equation of the tangent at the origin, and find the radius of curvature at the origin. Find the point of inflexion.

5. Trace the curve  $y(ab - x^2) = a^2x$ , determining its figure and position, its asymptotes, and its point of inflexion.

6. Trace the curve  $r^2 = a^2 \sin 2\phi$ . Find the angle which the curve makes with the radius vector.

TWO-HOUR COURSE.

\*7. Develop  $\log(1 + \cos z)$  according to powers of  $z$  by Taylor's Theorem, up to and including the term containing  $z^4$ . What is the circle of convergence for this series?

\*8. What is the rule for the product of two complex quantities? Find the formula for  $\log(x + yi)$ .

Under what circumstances is a definite integral, taken completely round a closed contour, necessarily equal to 0?

Prove that if a function is synectic for a given value of  $z$ , all its derivatives are likewise synectic for the same value.

If a function (otherwise synectic) is infinite when  $z = a$ , in what form of series can it be developed according to powers of  $(z - a)$ ?

\*9. Determine the figure of the curve  $r = a(1 - \cos \phi)$ , and find its area.

Prove the formula  $D_r D_\phi S = r$ .

\*10. Find the area of a zone, and the volume of a segment, of a paraboloid of revolution, cut by two planes perpendicular to the axis. Find the volume of a segment of a paraboloid not of revolution.

Given,  $D_s S = 2\pi u$ ,  $D_z V = \pi u^2$ .

\*11. Integrate  $\sec^2 x \csc x$ .

12. Integrate  $\frac{1}{x^2 \sqrt{ax - x^2}}$ .

13. Find the arc and the area cut off by the axis of  $x$  from the curve  $3y = 3 \operatorname{pcos} x - 5$ .

Given  $\operatorname{pcos}(1.10 \dots) = \frac{1}{2}$ .

MATHEMATICS 6.

(February, 1874.)

1. *Parallelogram of Forces*: prove that the diagonal represents the resultant in direction, when one of the given forces is a multiple of the other.

State the propositions called the *Triangle* and *Polygon* of Forces.



2. What is the resultant of two parallel forces, acting in the same or in contrary directions; and what is its point of application?

Define the *moment* of a force with reference to a *plane*; and state the conditions of equilibrium of a system of parallel forces.

3. Prove that if two contrary couples in the same plane have their arms equal and their forces equal, their arms having a common extremity, they are in equilibrium. Of what general proposition is this a case?

4. The resultant system ( $R, G$ ) of a given set of forces being found for one position of the origin; to find it for another position of the origin. What element of the resultant system is unchanged by this transformation?

What is the Central Axis of a system of forces? Prove that  $G$  has its least value when the origin is taken in the central axis.

State the six equations (in  $x, y, z$ ) for finding the resultant system of a given set of forces. How many unknown quantities enter into these equations, and what equations must be added to complete the solution?

5. To find the centre of gravity of any number of consecutive sides of a regular polygon; of a circular arc; of a semicircumference; of a circular sector; of a semicircle.

6. To find the conditions of equilibrium of that system of pulleys in which the string passing round any pulley is attached at one end to the weight and at the other end to the block of the next lower pulley; supposing the pulleys to have equal weights.

7. A body being pressed against a fixed rough surface by a force not normal to the surface; to find the conditions under which the body will or will not slide.

8. A uniform rod, weighing 8 lbs. per foot, rests on a fulcrum 3 feet from one end; find what weight suspended from that end will keep the rod at rest and make the pressure on the fulcrum 50 lbs.

9. Show that if a set of  $n$  forces applied to a point are represented by  $OA_1, OA_2, OA_3, \&c.$ , their resultant is represented by  $n OG$ , where  $G$  is the c. g. of  $A_1, A_2, \&c.$

10. A cube (side = 1) is truncated on one angle by a plane which bisects three adjacent edges; show that the distance of the c. g. of the remaining solid from the angle opposite to that which is cut off is  $\frac{1}{17} \sqrt{3}$ .

(June, 1874.)

1. Prove that when a force is transferred to any point  $O$ , the resolved part of the couple of transference in any direction  $OZ$  is equal to the moment of the given force about  $OZ$ .

2. To find the centre of gravity of the frustrum of a right cone made by a plane which bisects the axis and is parallel to the base.

3. A point moves in a straight line with constant acceleration; find the formulas for  $v$  and  $s$  in terms of  $t$ , and for  $v^2$  in terms of  $s$ .

Define the *vis viva* of a particle, and state and prove its relation to work.

4. Two equal balls are suspended from fixed points by equal and parallel strings, so that they rest in contact. One of the balls is drawn aside through an arc of which the chord is  $a$ , is allowed to fall, and drives the other up an arc of which the chord is  $b$ . Show that the modulus of elasticity is  $\frac{2b - a}{a}$ .

5. A stone thrown at an elevation of  $19^\circ$  from the top of a tower falls in 5 seconds at a distance of 100 feet from the base. Find the height of the tower, the velocity of projection, and the velocity of impact.

Given,  $x = ut \cos a$ ,  $y = ut \sin a - \frac{1}{2}gt^2$ .

6. Find the rate at which an engine, working at 100 horse-powers, would draw a train weighing 75 tons up an inclined plane rising 1 foot in 100, supposing the friction to be 6 pounds per ton.

Given, 1 ton = 2240 lbs; 1 horse-power = 33,000 ft. lbs. per minute.

## MATHEMATICS 7.

1. Find the shortest distance between two straight lines not in the same plane.

2. Find the angle between two straight lines which intersect, by the method of successive changes of plane.

3. On a given line in a given plane construct an equilateral triangle whose plane is perpendicular to the given plane.

4. Through a given point pass a plane making given angles with the planes of projection.

5. Pass a tangent plane to an hyperbolic paraboloid at a given point of the surface.

6. Through a given line pass a tangent plane to any surface of revolution.

7. Make the patterns for a ventilator consisting of a cylindrical pipe capped by a cone whose axis is at right angles to the axis of the cylinder.

8. Given two sides and the included angle of a spherical triangle, construct the remaining parts.

9. Find the shade and shadow of an inverted hollow right cone whose vertex is in the horizontal plane of projection.

10. Show how to construct perspective scales, and set off a point whose co-ordinates are  $x = 7$ ,  $y = 12$ ,  $z = 15$ .

11. Given the perspective of a line inclined to the horizon in a vertical plane inclined to the perspective plane, set off from a given point in it a given length.

## SECOND-YEAR MATHEMATICAL HONORS.

### GEOMETRY.—BOOK-WORK.

(May, 1874.)

1. On a given line as chord, to draw the segment of a circle capable of containing a given angle.

2. Given the base, the altitude, and the vertical angle, to construct the triangle.

3. To divide a line in extreme and mean ratio. [The geometric or the algebraic solution, or both.]

4. To inscribe in a circle a regular decagon.

5. The radius of a circle is 10; compute the length of one side of a regular pentagon inscribed in it.

6. Define similar polygons. Draw two polygons which are mutually equiangular, but yet not similar. Draw two dissimilar polygons having their sides proportional.

7. Prove that the polygons asked for in the last question cannot be triangles. [Two theorems.]

8. Explain how to find approximately the value of  $\pi$ . Prove the theorem or theorems on which your method is based.

9. If a line is perpendicular to a plane, every plane that passes through the line is perpendicular to that plane.

10. The volume of any prism is equal to the area of a right section, multiplied by the length of a lateral edge.

11. The area of a spherical triangle in degrees of spherical surface, and in square measure.

12. Symmetry with respect to a plane, an axis, and a point. Mention illustrations.

### GEOMETRY.— PROBLEMS.

(May, 1874.)

Do as many of these problems as you can in the time allowed, — three hours and a half.

1. The surface of a sphere is given; what is the surface of a sphere whose volume is  $\frac{1}{n}$ th as great?

2. The volume of a sphere is given; what is the volume of a sphere whose surface is  $\frac{1}{n}$ th as great?

3. To find the radius of a sphere, having given the radii of two parallel sections and the distance between them.

4. If a semi-circumference be divided into three equal arcs, and made to revolve about its diameter, the area of the zone generated by the middle arc is equivalent to the sum of the zones generated by the other two.

5. What is the ratio of the two volumes generated by a parallelogram turning first on one side, and then on an adjacent side, as an axis?

6. One corner of a cube is cut off by a plane which bisects the three edges meeting there. What part of the volume of the whole cube has been cut off?

7. Find in degrees and minutes the inclination to each other of the faces of a regular dodecahedron.

8. When is a quadrilateral capable of being inscribed in a circle?

9. The four bisectors of the angles of a quadrilateral form another quadrilateral which is capable of being inscribed in a circle.

10. Prove that the area of a regular inscribed hexagon is a mean proportional between the areas of the inscribed and circumscribed equilateral triangles.

11. On a line are taken any points  $A, B, C, \dots$ . On a parallel line are taken points  $A', B', C', \dots$  such that

$$AB : A'B' = BC : B'C' = CD : C'D' = \&c.$$

Prove that the lines  $AA', BB', CC', \&c.$ , all pass through one point. When is this point between the parallels? When not? When is it infinitely distant?

12. Given the base, the vertical angle, and the ratio of the two sides, to construct the triangle.

13. In any regular polygon the sum of the perpendiculars from any point within it upon the sides is always the same.

14. Prove that the area of a circle is a mean proportional between the areas of two similar polygons, one of which is circumscribed about the circle and the other isoperimetrical with it.

## TRIGONOMETRY AND ALGEBRA.

(June, 1874.)

1. Prove the formula  $\tan^2 \frac{1}{2} a = \frac{2 \sin a - \sin 2a}{2 \sin a + \sin 2a}$ .

2. Find all the values of  $\theta$ , between  $0^\circ$  and  $360^\circ$ , which satisfy the equation

$$\sin 6\theta + \sin 4\theta + \sin 2\theta = 0.$$

3. The sides of a triangle are in arithmetical progression, and the area of its inscribed circle is to that of the circle inscribed in an equilateral triangle of the same perimeter as 9 to 25. Find the ratios of the sides and the values of the angles.

4. At noon, a person standing on a cliff  $h$  feet above the level of the sea observes the altitude of a cloud in the plane of the meridian to be  $\alpha$ , and the angle of depression of its shadow to be  $\beta$ . Find a formula for the height of the cloud above the sea, the sun's altitude at the time of observation being  $\theta$ . [The directions of the sun from the point of observation and from the position of the cloud may be regarded as parallel.]

5. Prove that if a polynomial

$$Ax^n + Bx^{n-1} + \dots + M$$

becomes 0 when  $x=a$ , it is algebraically divisible by  $(x-a)$ .

6. Out of 9 consonants and 6 vowels how many words can be formed, each consisting of 3 consonants separated by 2 vowels?

7. Show that  $2 + x^4$  cannot be less than  $2x + x^2$  for any real value of  $x$ .

8. Solve the equations

$$\sqrt{x+y} + \sqrt{x-y} = \sqrt{a}, \quad \sqrt{x^2+y^2} + \sqrt{x^2-y^2} = b.$$

9. Find all the roots of the equation  $x^{12} = 1$ .

10. Find the least common multiple of

$$x^4 - x^3 + 2x^2 + x + 3 \text{ and } x^4 + 2x^3 - x - 2.$$

## CALCULUS AND CONICS.

(June, 1874.)

1. To find the equation of a tangent to a curve, by rendering the equation of the curve homogeneous, and using Euler's Theorem.

Apply this method to the general equation of the second degree.

2. Find the equations of the tangents to the curve

$$3x^2 - 4xy - x + 2y = 4,$$

at the points for which  $y=2$ ; and draw these tangents from their equations.

Determine the *centre* of this curve, draw its *asymptotes*, and make a rough *sketch* of the curve from these elements.

3. The sum of the squares of two quantities is constant. To find the maximum and minimum values of their product.

4. The perpendicular from the centre of an ellipse upon a tangent  $= \frac{ab}{b'}$ . Find an expression for the angle between two conjugate diame-

ters. Prove that the acute angle made by the equal conjugate diameters of an ellipse is less (and the obtuse angle greater) than the angle between any other pair of conjugate diameters. What is the angle between the equal conjugate diameters of the ellipse  $9x^2 + 25y^2 = 225$ ?

5. Show how to draw geometrically a pair of conjugate diameters making a given angle with each other. Determine, by aid of what was proved in the last paragraph, when this problem is impossible.

6. Define *self-conjugate triangle*. Prove that when one side of the self-conjugate triangle is the straight line at infinity, the other two sides are a pair of conjugate diameters. Show that the converse of this theorem is true.

## VI. PHYSICS (INCLUDING CHEMISTRY).

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### **PRESCRIBED PHYSICS.**

**SOPHOMORE YEAR.** — ASST. PROF. G. A. HILL.

Lockyer's *Astronomy* (English edition, first five chapters and Chapter IX.). — Stewart's *Elementary Physics* (first six chapters), with Hill's *Questions and Exercises* on the same, omitting the exercises in fine type.

*Two hours a week.*

### **PRESCRIBED LECTURES IN PHYSICS.**

**SOPHOMORE YEAR;** *once a week.* — ASST. PROF. G. A. HILL.

Lectures on Mechanics, Hydrostatics, and Pneumatics.

**JUNIOR YEAR;** *once a week.* — PROF. LOVERING.

Lectures on Mechanics, Acoustics, Electricity, and Magnetism.

### **PRESCRIBED CHEMISTRY.**

**FRESHMAN YEAR.** — PROF. COOKE AND ASSISTANT.

*Elements of Chemistry.* Lectures and Recitations.

*Three hours a week. Second half-year.*

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### **PRESCRIBED PHYSICS.**

#### **I. ELEMENTARY ASTRONOMY.**

1. Explain the chief phenomena in the heavens arising from the Earth's rotation on its axis: —

- (a) at the north pole;
- (b) at the equator;
- (c) at a middle latitude.

2. Explain (and illustrate with a diagram) the chief phenomena connected with a solar eclipse.

3. Explain (with a diagram) the chief phenomena connected with the motion of Venus, as seen from the Earth.

4. Explain how the *periodic time* of a planet may be found. Give the reasoning in full.

5. The difference between *mean* and *apparent* noon, and its causes.
6. Prove that Kepler's Second Law leads to the conclusion that *the force which causes a planet to move in its orbit is constantly directed toward a fixed centre.*
7. Give Newton's proof of the Law of Gravitation as applied to the Earth and the Moon.  
What bearing has Kepler's Third Law on the Law of Universal Gravitation?
- Give reasons for believing that *the force of Gravitation is directly proportional to mass.*

## II. ELEMENTARY PHYSICS.

8. Discuss the following examples of vertical motion :—  
A ball is dropped from the top of a movable chamber 4.9 metres high (a) when the chamber is at rest; (b) when the chamber is descending with the uniform velocity of 9.8 metres per second; (c) when the chamber is descending with a constant acceleration of 4.9 metres per second.
9. With what velocity must a stone be thrown down a well 100 metres deep, in order that it may reach the bottom in two seconds?
10. From what height must the ram of a pile-driver, weighing 1 ton, descend upon the head of a pile, in order that it may strike it with a momentum equal to that of a 64 lb. shot fired with a velocity of 1000 feet per second?
11. If a body be weighed successively in the two pans of a *false* balance, prove that the true weight is a mean proportional between the false weights.
12. Describe a *siphon* and its action, and *explain fully* why the flow of liquid from one vessel to another is maintained.
13. Distinguish between *kinetic* and *potential* energy. Investigate the character of the energy of an oscillating pendulum: of that of a planet moving round the sun in an ellipse.
14. Examine the following case of direct impact of two *inelastic* solids, and find what part of the united energy of the two masses before impact is transmuted into heat: weights of the solids, 20 grammes and 10 grammes; velocity of the first, 20; of the second, 16, in the opposite direction.
15. What were the chief improvements which Watt effected in the steam-engine?
16. Prove that the image of a luminous point lies as far behind a plane reflecting surface as the luminous point itself lies before it.

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## PREScribed CHEMISTRY.

Of these thirteen questions ten only are required. The student may omit any three.

1. State the three laws which define the molecular condition of a gas.
2. A mass of gas measured 400 cubic centimetres when the temperature was 3° centigrade and the tension 76 centimetres. What would it measure were the temperature increased to 72°, and the tension increased to 95 centimetres?

3. How can the molecular weight of any volatile body be directly measured? Describe Gay Lussac's method as improved by Hofmann.

4. Give the full proof that the symbol of water is  $H_2O$ .

Analysis of water,  $\left\{ \begin{array}{l} \text{Hydrogen } 11.11 \\ \text{Oxygen } 88.89 \\ \hline 100. \end{array} \right.$  Sp. Gr. of steam, 9.

5. Express by chemical symbols the action of muriatic acid on sodic carbonate, and explain fully the meaning of the several symbols employed.

6. How many litres of carbonic dioxide gas can be obtained from 500 grammes of sodic carbonate? Give the calculation in full, and explain each step.

7. State the general law which determines the thermal effects produced by chemical changes, and show that the heat evolved by burning fuel is simply an illustration of a general principle.

8. Under what conditions does the energy of combustion take the form of light or of mechanical force? Illustrate by lime-light and by gunpowder.

9. What is meant by the quantivalence of an atom? Give the symbols of four simple compounds which indicate the quantivalence of the atoms of chlorine, oxygen, nitrogen, and carbon, respectively, and state clearly the facts on which the symbol in any one case is based.

10. Express by symbols the chemical change which results when sulphuric acid diluted with water is poured upon metallic zinc, and show how this experiment illustrates the essential characteristic of an acid. Write another reaction illustrating the same point.

11. Butyric acid and acetic ether have the same percentage composition and the same vapor density. How does the chemist explain the difference in their properties? Illustrate by graphic symbols.

12. Describe the ordinary process of photography, and explain the chemical changes which take place at the different stages.

13. Describe the process of smelting iron ores, and give the general theory of the chemical changes involved.

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## ELECTIVES.

### Physics 1.—PROF. LOVERING.

Astronomy, Acoustics, and Optics.

*Three hours a week. 3 Seniors, 34 Juniors.*

### Physics 2.—ASST. PROF. TROWBRIDGE.

Practical exercises in the Laboratory, including the use of instruments of precision in testing the laws of Mechanics, Acoustics, Optics, Magnetism, and Electricity; and an extended course in Electrical Measurements.

*Three hours a week. 17 Seniors, 13 Juniors.*



**Physics 3. — PROF. LOVERING.**

Undulatory Theory of Light. — Electricity and Magnetism.  
*Three hours a week. 5 Seniors.*

**Physics 4. — PROF. GIBBS.**

Heat (with its Applications).  
*Three hours a week. 7 Seniors.*

**Chemistry 1. — MR. FIELD.**

Elementary Chemistry (with Laboratory Practice).  
*Two hours a week. 1 Junior, 57 Sophomores.*

**Chemistry 2. — PROF. COOKE and MR. H. B. HILL.**

Qualitative Analysis. — Chemical Philosophy.  
*Three hours a week. 7 Seniors, 84 Juniors.*

**Chemistry 3. — PROF. COOKE.**

Mineralogy (including Use of the Blowpipe and Crystallography).  
*Three hours a week. 7 Seniors, 4 Juniors.*

**Chemistry 4. — PROF. COOKE and MR. MUNROE.**

Quantitative Analysis (chiefly Laboratory Work).  
*Three hours a week. 6 Seniors.*

**Chemistry 5. — MR. H. B. HILL.**

Organic Chemistry (Theoretical and Experimental).  
*Three hours a week. (This course was not taken by any undergraduates.)*

**PHYSICS 2.**

1. What constitutes difference of Potential? What is electric quantity?
2. Define a unit quantity of Electricity.
3. What is electromotive force? Is a difference of Potential necessary to produce a current of induction? Give reasons.
4. What are the laws of current induction? Describe a solenoid.
5. What are the units employed in electrical measurements? How are they related to the absolute units?
6. Define the terms: lines of force; magnetic field; magnetic moment.
7. Prove the law of divided circuits. If a galvanometer of 6000 ohms resistance is shunted by a wire of 5 ohms resistance, what is the combined resistance of the circuit, the resistance of the circuit exterior to the galvanometer being 10 ohms?
8. Prove the law of Wheatstone's bridge.
9. Describe the principle of the Holtz machine.
10. Explain the principle of the simplest form of magneto-electric engine.

## LABORATORY EXAMINATION.

1. Calibration of glass tubes.
2. Measurement of the radius of curvature of a lens by a spherometer ; six observations, with calculation of the probable error of the result.
3. Estimation of the specific gravity of a given substance.
4. Measurement of the deflection of a steel bar under a varying load.
5. Determination of the value of  $g$  in the equation  $t = \pi \sqrt{\frac{l}{g}}$  by two pendulums and the method of coincidences.
6. Observations on the law of lenses, and a graphical expression of the results.
7. Measurement of the intensity of gaslight by Bunsen's photometer.
8. Measurement of the resistance of a Daniell cell.
9. Comparison of resistances by a differential galvanometer, and by a Wheatstone's bridge.
10. Measurement of the electromotive force of batteries by Wiedemann's and Poggendorff's methods.

## PHYSICS 8.

1. How is the equation of the surface of elasticity found, viz. :—  
 $r^2 = a^2 \cos^2 \lambda + b^2 \cos^2 \mu + c^2 \cos^2 \nu$ ?
2. What are the *direct* and *inverse* ellipsoids? What is their use in the undulatory theory of light?
3. How is it proved that the displacement of the ether is propagated by a parallel vibration only when it is in the direction of the *greatest* and *least* radii of the section of the surface of elasticity?
4. How is the equation for the normal velocities of the ordinary and extraordinary rays found, viz. :—  

$$\frac{\cos^2 l}{V^2 - a^2} + \frac{\cos^2 m}{V^2 - b^2} + \frac{\cos^2 n}{V^2 - c^2} = 0?$$
5. Find the three principal sections of the wave surface from its equation  

$$(a^2x^2 + b^2y^2 + c^2z^2)(x^2 + y^2 + z^2) - a^2(b^2 + c^2)x^2 - b^2(a^2 + c^2)y^2 - c^2(a^2 + b^2)z^2 + a^2b^2c^2 = 0.$$
6. In which of these sections are the optical axes? What are the two *kinds* of optical axes?
7. Find the wave front for *uniaxial* crystals, and for bodies which do not exhibit double refraction.
8. What is the distinction between *wave-velocity* and *ray-velocity*?
9. What are the theories of electricity?
10. Explain electrical induction.
11. Explain the *cascade* battery. Find the formulas for the whole amount of electricity in it, viz. :—

$$\frac{1 - m^n}{1 - m} \text{ and } \frac{m(1 - m^n)}{1 - m}.$$

12. How is the velocity of electricity found?
13. How are the electrical forces measured?
14. What are the elements of terrestrial magnetism?
15. How is the intensity of the earth's magnetism measured?
16. What are the properties and position of the magnetic poles of the earth?
17. What changes occur in the earth's magnetism?
18. What are constant voltaic elements? Explain one of them.
19. Apply Ohm's formula to different kinds of batteries.
20. Prove that the maximum effect of a given number of elements depends on the condition that the internal and interpolar resistances are the same.

## PHYSICS 4.

1. Describe Pouillet's apparatus for estimating the amount of heat which the earth's surface receives from the sun.
2. Prove that in a reversible cycle  $\int \frac{dQ}{T} = 0$  and  $F = \int \frac{dQ}{A}$ .
3. Give the diagrams of Sterling's and Ericsson's caloric engines, and describe them briefly, giving the equations of the four lines bounding the area representing the work of each engine.
4. Devise a method of determining  $\chi$  experimentally, the theory of the process being contained in the equation  $\frac{T_2}{T_1} = \left(\frac{p_2}{p_1}\right)^{\frac{\chi-1}{\chi}}$ .
5. How is it shown, experimentally, that the internal work done during the expansion of a gas is very small?
6. The kinetic theory of gases leads to the formula  $p = \frac{1}{3} m n v^2$ . Deduce from this expression the law of Boyle and Mariotte, the law of Charles, the law of Avogadro, and the law of Gay Lussac.
7. Give Hirn's methods for determining the mechanical equivalent of heat.
8. In what manner have Masson and Jamin proved the identity of luminous and calorific radiations?
9. How may gravity be transformed into equivalent amounts of magnetism, electricity, and the potential energy of chemical separation?
10. In what manner can we measure in units of work the kinetic energy of solar radiation absorbed in the growth of a tree?

## CHEMISTRY 1.

1. Describe the preparation and properties of  $(\text{H}_4\text{N})_2\text{SO}_4$ ;  $\text{CuSO}_4 \cdot (\text{H}_4\text{N})_2\text{SO}_4 \cdot 6 \text{H}_2\text{O}$ ;  $\text{K}_2\text{Cr}_2(\text{SO}_4)_4 \cdot 24 \text{H}_2\text{O}$ ;  $\text{N}_2\text{O}$ ;  $\text{NO}$ ;  $\text{H}_2\text{S}$ . Write and explain all the reactions involved in the preparation of each.
2. Make a table of the first ten of the possible silicic acids. Explain and illustrate the term "ortho-acid."

3. What is meant by the allotropic forms of an element? Give all the examples you have had.

4. 0.535 of a gramme of ammoniac chloride gives 2.232 grammes of ammoniac chloroplatinate,  $\text{Pt Cl}_6(\text{H}_4\text{N})_2$ , and one hundred parts of the latter salt give on ignition 44.23 parts of platinum. Required the molecular weight of  $\text{Pt Cl}_6(\text{H}_4\text{N})_2$ , and the atomic weight of platinum, assuming there is only one atom in the molecule of the above compound.

5. The Sp. Gr. referred to air of sulphuric-acid vapor is 1.697. Calculate its molecular weight, and compare this with the molecular weight corresponding to its symbol. Explain the discrepancy. Give the work in full, and state the law on which it is based.

6. Find the calorific intensity of ethylene ( $\text{C}_2\text{H}_4$ ) burnt in air.

Calorific power of  $\text{C}_2\text{H}_2$  = 11858

Specific heat of  $\text{H}_2\text{O}$  = 0.4805

" "  $\text{CO}_2$  = 0.2164

" "  $\text{N}_2$  = 0.244

Composition of air  $\left\{ \begin{array}{l} \text{N} = 76.8 \\ \text{O} = 23.2 \end{array} \right.$

7. Describe briefly the principle and process by which the presence of various elements in the sun and other heavenly bodies is determined.

8. What are the three common acids of phosphorus? Write their symbols according to the second graphic method.

9. Define the following terms: alcohol, glycol, fat acid, acid salt (two kinds), atomicity and basicity of an acid. Give examples of each.

## CHEMISTRY 2.

Three mixtures were given to each student:—

(1) A mixture of  $\text{PbNO}_3$ ,  $\text{As}_2\text{O}_3$ ,  $\text{ZnO}$ , and  $\text{MnCl}_2$ , given as an exercise in preliminary examination only.

(2) A mixture of the nitrates of nickel and cobalt with the nitrate of either manganese, iron, or zinc, given as an exercise in the determination of basic radicals.

(3) A mixture of sodic phosphate and ammoniac oxalate with some alkaline sulphate or nitrate, given as an exercise in the identification of acid radicals.

Five hours were allowed for the analyses.

## CHEMISTRY 3.

The examination of each student consisted in the identification and description of 4 crystal models, and 12 mineral specimens selected from over 200 mineral species which the class had studied.

## CHEMISTRY 4.

To each student was given a different mixture of siderite and sodic chloride, to determine the per cent of siderite by estimating the weight of iron present. Five hours were allowed for the analysis.

## VII. NATURAL HISTORY.

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### **Natural History 1.—ASST. PROF. PETTER.**

Guyot's Physical Geography, to Part V.—Structural Geology (Selections from Dana's Manual, amounting to 250 pages).

*Two hours a week. 3 Juniors, 84 Sophomores, 1 Freshman.*

### **Natural History 2.—ASST. PROF. GOODALE.**

Elements of Structural and Systematic Botany (Gray's Lessons and Field Book).

*Three hours a week. 35 Seniors, 53 Juniors.*

### **Natural History 3.—DR. WATERMAN.**

Comparative Anatomy (Mivart's Lessons in Elementary Anatomy, and Lectures).—Comparative Physiology (Huxley's Lessons in Elementary Physiology, and Lectures).

*Three hours a week. 23 Seniors, 30 Juniors.*

### **Natural History 4.—PROF. MCCRADY.**

General Zoölogy (Elementary Course).

*Three hours a week. 4 Seniors, 21 Juniors.*

### **Natural History 5.—PROF. SHALEH.**

Structural Geology.

*Three hours a week. (This course was not given.)*

### **Natural History 6.—PROF. AGASSIZ.**

General Geology (with special reference to the Geology of America).

*Three hours a week. (Owing to the death of Prof. Agassiz this course was discontinued.)*

### **Natural History 7.—PROF. MCCRADY.**

General Zoölogy (Advanced Course).

*Three hours a week. 13 Seniors.*

### **Natural History 8.—ASST. PROF. GOODALE.**

Vegetable Anatomy and Physiology.—Systematic and Economic Botany (Gray's Botanical Text-book).

*Three hours a week. 9 Seniors, 1 Junior.*

## NATURAL HISTORY 1.

1. What is the inclination of the earth's axis to the plane of its orbit? If the inclination should become the same as that of Venus, what changes would be produced in the climates of different parts of the globe?

2. How has the density of the earth been determined? Which is the more dense, the outer crust or the interior?

3. Explain how it is possible to ascertain the mean annual temperature of a place by a single observation.

4. In what parts of the Indian Ocean, and at what seasons of the year, are the trade-winds interrupted? Why? Mention and explain the causes of any peculiarities in the amount and seasons of rainfall in Hindostan.

5. From which side does the Mississippi River receive the largest amount of water? How is this accounted for?

6. Define *latitude*. Show the connection between your definition and the method usually adopted in determining latitude.

7. State Dove's *law of the rotation of the winds*, and explain the foundation upon which it rests. What changes take place in the barometer and the thermometer during the rotation?

8. Compare the wet and dry seasons of the warm temperate zone with those of the belt of trade-winds, and explain the differences, if any.

9. Describe the northern isothermal line of 50°, stating where it enters and leaves each ocean, and giving the names of important States, islands, or cities through or near which it passes.

10. In what ways do oxygen, calcium, potassium, and sodium mainly contribute to the rock masses of the earth?

11. Name and explain the principal terms used to distinguish varieties of structure in rocks.

12. What are the criteria for determining the chronological order of rocks, and what precautions have to be observed in applying them?

13. Describe the geological growth of the continent of North America.

14. In cases where rocks of different ages have been upturned in the same region, how would you determine whether there had been one or more than one uplift? Diagram.

15. Draw three diagrams to illustrate the topographical effects of erosion.

16. What have been the principal agencies at work in producing metamorphism in rocks, and what changes have been brought about by these agencies?

17. How and where are the geological effects of tides and ocean currents chiefly manifested?

18. What changes take place in the transformation of vegetable matter into mineral coal, and under what circumstances?

## NATURAL HISTORY 3.

1. What are the principal modifications of the epidermis among vertebrates?

2. Describe the mode of succession of the teeth in the Crocodile and Shark.

3. Describe the general plan of the heart and organs of respiration in fishes, reptiles, and mammals.

4. Describe the circulation of the blood in fishes, reptiles, and mammals.

5. Describe the two methods of artificial respiration for resuscitation of the drowned.
6. Describe the digestive system of the Fowl.
7. When the fore-arm is flexed upon the arm, what mechanical principle is exemplified?
8. What is the principle of binocular vision?
9. Describe a transverse section of the spinal cord and the nerves given off from it.
10. What is reflex action? Give examples.

## NATURAL HISTORY 4.

(February, 1874.)

The questions marked with an asterisk are those to which adequate answers are *required* as the condition of bare success in passing the examination.

The other questions give the student the opportunity of passing with more or less distinction. The answers to them may be, if the student prefers, wrought into the replies to the *required* questions; but this is not necessary, and in many cases would be inadvisable.

No student is expected to answer every question.

Aspirants for honors may give special attention (after answering *required* questions) to questions marked thus (†).

### A. POLYPI.

- \*1. What is the developmental history of Actinia from the egg to the adult state, including the structure of the adult?
2. Wherein do the coral-producing polyps differ in structure from the ordinary Actinia? Are the hard parts secreted by polyps always calcareous, and always internal?
3. Wherein do the Halcyonoid Polypi differ from the Actinoids?
4. Wherein do the Rugosi differ from ordinary Actinoids? What do we know of their developmental history?
5. What are the principal forms of budding among Polypi? What remarkable form of budding is found among the Rugosi?

### B. ACALEPHÆ.

- \*1. What is the developmental history of a Tubularian Acaleph from the egg to the adult condition, including the structure of the adult?
2. What is the corresponding history of a Sertularian from the egg, and what are the principal differences between this history and the preceding?
3. What is the history of the Haplostome Acaleph, Cunina (Foveolia), and of its parasitic life so far as known?
4. What is the history of a Discophore, including the structure of the adult, and noting its remarkable differences from that of the Hydroid Acaleph?
5. What is the history of one of the Ctenophoræ Lobatæ from the egg, including structure of adult?

### C. ECHINODERMATA.

- \*1. What is the developmental history of a Star-fish (Asteracanthion) from the egg to the adult state, including structure of adult? What are the chief variations of this history among Star-fishes?

2. Wherein does the history of the Holothurian agree, and wherein does it differ, from that of the Star-fish? What is the structure of the adult?

3. Wherein does the history of the Echinoid differ from the two preceding, and what are the remarkable structural features of the adult?

4. Wherein does the history of the Ophiuran agree, and wherein does it differ, from that of the Echinoid? What is the structure of the adult?

5. What is the history of Comatula from the egg, including general account of the structure of the adult? What remarkable difference is there in the case of Comatula as to the way in which the young animal is formed in the larva?

#### D. RADIATA IN GENERAL.

\*1. Wherein does the structure of the Acalephæ agree, and wherein does it differ, from that of the Polypi? Wherein do these classes differ from, and wherein do they agree with, the structure of the Echinodermata? What effect has this difference had upon current classification?

†2. What is a Sphæromere?

†3. What does the law of progressive specialization lead us to expect in passing from lower to higher groups of the same type?

†4. How may the homologies of the Echinoderms with the Acalephæ and Polypi be explained by applying this principle of development to the Sphæromere?

†5. What falsity is involved in the conception of Alternation of Generation? What falsity is involved in the opposite conception of a succession of "zooids" in a single generation? What seems to be the proper explanation of the facts as known among Acalephæ?

(June, 1874.)

Give an account of the developmental history *ab ovo*, and of the adult structure of each of the following forms of animal life:—

#### VERMES.

1. Turbellarian (Pilidium).
2. Trematode.
3. Nematelminth (Sagitta).
4. Gephyrian (Balanoglossus), noticing peculiarities of Echiurida and Sipunculida.

#### MOLLUSCA.

5. Phylactolæmatous Polyzoan, Cheilostomatous Polyzoan, Pedicellina.
6. Brachiopoda (Terebratulina), with notices of free-swimming larvæ.
7. Tunicata, Sessile Ascidian, Appendicularia, Doliolum, Salpa.
8. Lamellibranchiate.
9. Pteropoda.\*
10. Opistho-branchiate Gasteropod.\*
11. Prosobranchiate Gasteropod.\*
12. Tetrabranchiate Cephalopod.\*
13. Dibranchiate Cephalopod.\*

What are the probable homologies of the Vermes with Ctenophoræ and Echinodermata?

\* Not required.



What is the central point of structure among Mollusca, and how can the homologies of the various forms be more or less fully explained by reference to this point?

Are there any homologies between the Vermes and the Mollusca?

Are there any homologies between the Vermes and Articulata?

What seems to be the proper explanation of the facts of so-called "Alternation of Generations" among Tunicata? Does the so-called "sexual zooid" differ in any respect from an adult Ascidian in which there is no Alternation of Generation?

## NATURAL HISTORY 8.

One question omitted. Five hours (2 on Friday, 3 on Saturday) given for the paper.

1. Describe the properties of *protoplasma*.
2. Describe the forms, markings, and contents of the cells found in the *Pine*.
3. Describe the structural elements of a fibro-vascular bundle.
4. Explain the differences between the structure of *acrogenous*, *endogenous*, and *exogenous* stems.
5. Where does normal chlorophyll occur, and what is its appearance?
6. Describe fully the minute structure of any leaf.
7. Describe the underground modifications of *branches* and *leaves*.
8. What organs may assume the form of *tendrils*?
9. What are the seven principal deviations from the perfectly normal flower? Explain *chorisis* and *anteposition*.
10. Give the two explanations of "*calyx adherent*."
11. What are (1) *polygamous*, (2) *neutral*, (3) *monœcious* flowers?
12. Forms, structure, and contents of pollen grains.
13. Explain the development and structure of anatropous ovules.
14. State the conditions of most rapid absorption by roots.
15. Explain the "circulations" in an active exogenous stem.
16. Explain (1) *assimilation*, (2) *transpiration*, and (3) *respiration* in plants.
17. Relations of chlorophyll to light.
18. Fertilization in (1) *Mosses*, (2) *Ferns*, (3) *Phænogams*.
19. Relations of flowers to the Atmosphere.
20. Explain *tension of tissues* (illustrate by *Mimosa*, twining or climbing plants, &c.).

NOTE. — In answering 21-26 inclusive, give, if possible, the generic and specific names of the plants referred to.

21. What orders furnish the principal sub-tropical and tropical fruits of Boston market.

22. What orders yield (1) the most important drugs, (2) the common spices, (3) the starches of commerce?

23. What orders contain the food-plants of the Temperate Zone?

24. Describe the useful products of the order *Palme*.

25. What cryptogamous plants can be used as food for man?

26. What orders furnish the more useful textile fibres?

27. Refer plants No. 1 and No. 2 to their Linnæan order and class.

28. Refer plants No. 3 and No. 4 to their natural order.

29. Write out, upon the annexed schedules, descriptions of plants No. 5 (a dried specimen) and No. 6.

## VIII. MUSIC.

**Music 1.—ASST. PROF. PAINE.**

Harmony.—Chorals in four-part harmony.

*Two hours a week. 1 Junior, 4 Sophomores.*

**Music 2.—ASST. PROF. PAINE.**

Imitative Counterpoint.—Canon.—Choral Figuration.—Simple forms of Free Composition: Song, March, Dance, Prelude, &c.—Thematic Treatment.

*Three hours a week. 1 Senior, 2 Juniors.*

**Music 3.—ASST. PROF. PAINE.**

Fugue (in two, three, and four voices; Double Fugue, &c.).—Instrumentation.

*Three hours a week. 2 Seniors.*

**MUSIC 1.****HARMONY.**

1. Resolve the dominant seventh chord of G into other seventh chords, and give an example of the progression of three of the secondary chords of the seventh into other chords than those of the regular progression.

2. Write out the four-part harmony to the following bass:—



3. With what chords of the seventh is the chord of the augmented triad connected?

4. Name and resolve the chord, E flat, G, A, and C sharp.

5. State the several rules that govern the essential features of suspensions.

6. What is the condition of suspension in the bass?

7. How may suspensions from below upward take place? Give examples.

8. Write the harmony to the following figured bass :—



**9. What are anticipation and syncopation in harmony?**

10. What is the organ point? State the rules of its proper treatment. What are stationary tones?

11. What are passing and changing tones? How are they employed? Give an example of each.

12. What faulty progressions are to be avoided in using passing and changing tones?

13. What is a cadence? Write out and name the various kinds of cadences.

14. State the object and chief means of modulation. Modulate from G major to B flat major; from G minor to A major.

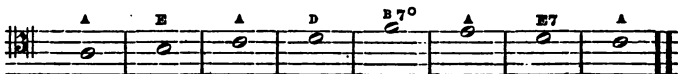
15. In writing the harmonic accompaniment to a melody, what important points are to be regarded?

16. What rules are to be observed in the treatment of the bass? How may the chord of the sixth and fourth be used? State when covered fifths and octaves may be allowed, and when not.

17. Harmonize the choral, "Dayspring of Eternity."

**18. What is unharmonic cross relation?**

19. Harmonize the melody given in the following tenor:—



## MUSIC 2.

## IMITATIVE COUNTERPOINT AND CANON.

1. Write an example of imitative counterpoint in four parts to the choral "Not in anger, mighty God," with the melody in the tenor.

2. Compose a two-part canon in the fourth, with a free bass, to the following theme:—



3. Analyze the canonic variations, for the organ, on the choral "Vom Himmel hoch da komm ich her," by Sebastian Bach.

4. Name and describe notable canons by Clementi, Beethoven, and Schumann.

#### FREE THEMATIC MUSIC.

5. Define the rondo, and describe the various forms of rondo. Analyze the largo of Beethoven's Sonata, Op. 7; of the finale of Schubert's Sonata in A minor, Op. 42.

6. Explain the Sonata form. Analyze the opening allegro of Haydn's Symphony in D major.

7. Define the Scherzo form, and give an account of its historical development. Analyze the third movement of Beethoven's Symphony in D major.

#### MUSIC 3.

##### FUGUE.

1. Compose a four-part fugue to the following theme:—

(Subject from J. S. BACH.)



##### INSTRUMENTATION.

2. What constitutes the art of modern instrumentation?

3. Name the several classes of orchestral instruments, giving an account of each instrument in regard to (1) the compass and range of tone; (2) *timbre* or quality of tone in the several registers; (3) the technical capabilities; (4) the particular character and power of expression peculiar to each instrument.

4. Compose in full score a short orchestral introduction, giving characteristic effect to the several groups of instruments.

5. Describe some of the leading features of the orchestral scores of Handel, Bach, Gluck, Haydn, Mozart, Beethoven, Mendelssohn, and Schumann, as distinguished one from another.

# EXAMINATIONS IN THE DIVINITY SCHOOL.

## THE PENTATEUCH. — PROF. YOUNG.

### *Junior Class.*

1. What are the characteristics of the Shemitic languages, as distinguished from the Indo-European?

2. The formation and uses of the tenses in Hebrew?

3. What is the proper distinction between the words "Hebrews," "Israelites," and "Jews?"

4. Mention in their order the different Divine names, and give their significance. What is implied in אֱלֹהֵי אֲשֶׁר אֱדָרָה, Exodus iii. 14?

5. Did Moses first introduce the name Jehovah? What reasons are there for thinking that it is older than Moses? How is Exodus vi. 8 to be interpreted, and what inferences are to be drawn from it in regard to the Pentateuch?

6. Translate literally Exodus iv. 10, and explain כְּבֹד־פָּה.

7. Parse וְשִׁמְתָּ and תַּעֲשֶׂהוּ in Exodus iv. 15, and give the meaning of לְאֶלְהֵימָם in verse 16.

8. What is taught in the Mosaic Law in regard to the treatment of animals? and in regard to enemies?

9. What was the "breastplate of decision" of the High Priest, and how did he ascertain the will of Jehovah? What is to be understood by לְזִכָּרוֹן in Exodus xxviii. 29?

10. Explain Exodus xxxiv. 33. Correct the mistranslation of our English Bible; and mention the use made of this passage in the Epistle to the Corinthians.

11. Why was Moses represented with horns by Michael Angelo? Show how this error arose in the Vulgate, and in the Douay version.

12. State the reasons for the dietary laws of the Hebrews, Leviticus xi. 1-8 sqq. How are they treated in the New Testament? How do the modern Jews regard them?

13. Translate and explain Leviticus xix. 17.

14. Translate literally Numbers xi. 29, and construe הִתְבַּיֵּטָה.

15. Where are וְנָחִי and הָרִינָה made, in Numbers xiii. 83?

16. What was the צִיצִית, and for what purpose was it appointed? Did Jesus wear it, and what is it called in Greek? Is it worn in the same manner to-day?

THE PSALMS.—PROF. YOUNG.

*Junior Class.*

1. What is *Lamed auctoris*, and how is it used? Give examples.
2. Where is the conjugation *Pilpel* found, and what is its signification?
3. The construction of the numerals?
4. How is the optative "would that" (*Utinam!*) expressed?
5. The design of the first Psalm? What are the allusions in vv. 3 and 4? What is "the judgment," v. 5?
6. To what circumstances does Psalm ii. refer? Translate and explain vv. 7 and 12.
7. In Psalm xii. parse רִכְרַח, שָׁפַחַי, and בְּדִלְוָה, in v. 4. What renderings have been given of v. 9 (8)?
8. What is meant by נָבֵל in Psalm xiv. 1, and what is the corresponding word in the New Testament? How are vv. 1 and 3 to be understood? How are they applied by Paul in the Epistle to the Romans?
9. The speakers in Psalm xx. 2 and 7 (1 and 6), and the occasion? The meaning of שָׁם in v. 2 (1)? Translate literally vv. 4 and 7 (3 and 6). How is the last verse to be rendered, if the Masoretic accents are or are not observed? Which is to be preferred, and why?
10. Translate the K'thibh and the Q'ri in Psalm xxx. 4. What is meant by "mountain," v. 8 (7), and by "glory," v. 18 (12)? Parse בְּרִדְתָּי, v. 10, and רִדְם, v. 18.

11. What historical associations, ancient and modern, are connected with Psalm xli. ? What is the "river," v. 5 (4)? Give an exact translation of v. 6 (5).

12. Correct the received version of Psalm lxv. 6 (5). Give the Greek and Latin words for מַאֲוֵת־חַיִּי, v. 9 (8), according to the Septuagint and the Vulgate. What is to be understood by פָּלַג אֶלְחָיִים, v. 10 (9), and by מַעֲנֵלִי, v. 12 (11)?

13. The authorship of Psalm xc. State the different opinions, with the reasons for them. How is the title accounted for?

14. The distinction between אָרַץ and תְּהִלָּה? The different renderings which have been given to יִרְאֵה and יִהְיֶה in Psalm xc. 5 and 6, and the cause of this difference? How is "thy fear," v. 11, to be understood? The meaning of v. 13? of "thy work," v. 16, and "the work of our hands," v. 17?

THE HAGIOGRAPHIA AND THE PROPHETS.—PROF. YOUNG.

*Middle Class.*

1. The "Song of the Bow,"—whence did it derive its name? what use was made of it? and what are its characteristics?
2. What is the *Atbash* mode of writing? Specify any instance of it.

8. Give the true translation of the passage, "Though worms destroy this body, yet in my flesh shall I see God;" and remark upon it.

4. How is wisdom represented in the Book of Proverbs, and what importance attaches to this representation?

5. Translate literally Proverbs viii. 30, 31, and explain what is involved therein.

6. Comment on Proverbs xxx. 1-14, and show the connection of the thoughts.

7. What is to be noticed in the form and structure of Proverbs xxxi. 10-31? How should the phrase "virtuous woman" be rendered? What is signified by *וְזֵן* in v. 15? Give the true rendering of v. 25.

8. What view is to be taken of Ecclesiastes xii. 1-14? Give the different explanations of *וְיִרְנָאץ הַשֶּׁקֶר* in v. 5. Who is referred to by

*וְיִרְנָאץ הַשֶּׁקֶר* in v. 11?

9. Mention the derivation and signification of the words Jeremiah, Zachariah, Ebionites.

10. How is Jeremiah i. 5 to be understood? Illustrate vv. 11 and 13.

11. Translate Jeremiah xxxi. 31-34, and explain what is meant by the "new covenant."

12. Give the original forms of the nouns and verbs in Jeremiah xxxii. 21, 22.

13. What inferences are to be drawn from Jeremiah xxxiii. 17-22?

14. How do you interpret *וְנִפְתָּרוּ הַשְּׂמֵרִים* in Ezekiel i. 1, and why?

15. What is indicated by the "four living creatures," by the "fire," and by the "wheels full of eyes," in Ezekiel i. 5, 13, 15-18? How came such imagery to be suggested to the prophet? And what is similar to it in the Apocalypse?

16. What was the purpose of the vision of the valley of the dry bones, Ezekiel xxxvii. 1 sqq.? What is meant by the "noise" and "shaking," v. 7? How do you explain vv. 12-14?

17. Translate Zachariah xiv. 6, according to the text and the marginal reading. Give the meaning of v. 7. What is signified by the description in v. 8?

## HEBREW LITERATURE.—PROF. YOUNG.

### Senior Class.

1. What are the characteristics of the Lyric Poetry of the Hebrews?
2. What of the Didactic Poetry?
3. Why was there no Epic or Dramatic Poetry? How is the Book of Job to be regarded?
4. Hebrew metres, rhythm, and rhyme?
5. Mention the different kinds of parallelism.
6. The formation and structure of the Book of Psalms?
7. The value of the Inscriptions?
8. What is to be said of the Alphabetic Psalms?
9. Of the so-called "Songs of Degrees." State the various opinions.

10. What view is to be taken of the Messianic Psalms?
11. Of the Imprecatory Psalms?
12. The distinction between divination and prophecy? and between prophecy and ecstasy?
13. The date and chronological order of the prophets?
14. Their title, position, and proper function?
15. Their authority, and the evidence of their inspiration?
16. How are their visions and symbolic actions to be understood?
17. Their predictions, and the fulfilment of them?
18. Their Messianic conceptions and declarations?
19. Give an account of the Moabite Stone. What results has it yielded for palæography, philology, history, and biblical science?

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### TEXTUAL CRITICISM. — PROF. ABBOT.

#### *Junior Class.*

1. History of papyrus, parchment or vellum, cotton paper and linen paper, as writing materials, with special reference to manuscripts of the New Testament.
2. Ink of the ancients. Special uses of red ink. Illumination of manuscripts. Origin of the terms *rubric*, *miniature*. Pens.
3. Palimpsest manuscripts. Give examples.
4. Form of ancient books.
5. Style of writing. Difference between the earlier and later uncials, and between the earlier and later cursives. Punctuation, accents, breathings, iota adscript or subscript. Remarkable forms of certain letters.
6. Abbreviations. Line over a final letter. Dots over letters. << or >> in the margin of manuscripts.
7. Divisions of the text; *τίτλοι*. With what divisions and additions has the name of Euthalius been connected? What fanciful division was made of the Apocalypse?
8. Eusebian sections and canons.
9. History of the modern division into chapters and verses.
10. Name, in chronological order, the most important MSS. of the Gospels to the sixth century inclusive; also any later MSS. of exceptional value.
11. Which of these MSS. contain parts of the Old Testament also? Which of them contain the Gospels entire? What others, the larger part of the Gospels? Which are bilingual? palimpsest? stichometric?
12. Describe more particularly  $\alpha$ , B, D.
13. What is the MS. called P in the Acts, Epistles, and Apocalypse?
14. Describe MS. E of the Acts.
15. What is the most important Græco-Latin MS. of the Pauline Epistles? What other Græco-Latin MSS. contain the Epistles of Paul?
16. What uncials contain the Apocalypse? Date of the MS. B of this book.
17. How can we prove the value of the text in a particular manuscript? What is meant by "comparative criticism"?
18. Name the ancient versions most important in criticism, century by century, in chronological order.



19. Account of the Old Latin version. What MSS. best represent its primitive form? Proper use of the term *Itala*. What MS. represents it? What two publications contain the principal remains of this version?

20. History of the Latin Vulgate.

21. Curetonian Syriac and Peshito. What books of the New Testament are wanting in the latter? Philoxenian or Harclean Syriac.

22. Name chronologically the Greek Fathers whose quotations are important in textual criticism. Among these, who are remarkable for looseness of quotation? Who have *commented* on large portions of the New Testament? Whose quotations are the most important of all?

23. State and illustrate the principal causes of error in transcription.

24. What are some of the critical maxims founded on this view of the sources of error? What is the most comprehensive principle of textual criticism?

25. Mention some of the more important passages in which the reading of the "received text" of the New Testament is questionable or spurious.

26. What is the "received text," so-called? Principal editions which preceded it, and on which it was founded.

27. Name the principal later editions of the Greek Testament in chronological order, noting their chief characteristics.

28. Give a particular account of Tischendorf's labors in the field of textual criticism.

### GOSPEL OF MATTHEW (UNFINISHED).—PROF. ABBOT.

#### *Junior Class.*

1. Give a brief analysis of the Gospel of Matthew.

2. Remark on the accounts of the birth and infancy of Jesus in Matthew and Luke.

3. Explain the term *χριστός*. To what office of Jesus does it particularly refer?

4. Use of the word *προσκυνέω* in the Gospels. Etymology and former use of the English word *worship*. Is there any term in the New Testament which is restricted to religious worship or service?

5. When did Herod the Great die, and how is the time determined? By whom and when was the present Christian era fixed, and what error was committed?

6. During what years was Pilate procurator of Judæa?

7. What two modes of reckoning the fifteenth year of Tiberius (Luke iii. 1), and which should we probably follow? In what year did Jesus probably begin his public ministry?

8. What view may we take of the Temptation? (Matt. iv. 1-11.)

9. Does the language used by our Saviour require us to regard him as teaching the personality of Satan as a doctrine of his religion? Why?

10. What are the principal appellations given to Satan in the New Testament and the Rabbinical writings? How did the name *Lucifer* come to be applied to the Prince of Darkness? What are the only books of the Old Testament in which Satan is mentioned?

11. Explain *σεληνιαζόμενος*. (Matt. iv. 24.)

12. Give an analysis of the Sermon on the Mount.

13. What is the relation of the Beatitudes to the prevalent Messianic expectations of the Jews?

14. Explain Matt. v. 18.
15. Explain Matt. v. 21, 22, remarking on κρίσις, συνέδριον, γέννα τοῦ πυρός, ῥαχά, and μωφέ.
16. What is to be said of the etymology and meaning of ἐπιούσιος? (Matt. vi. 11.)
17. Translate and explain Matt. vi. 22, 23.
18. Translate Matt. vi. 25, and explain the argument involved in the last part of the verse.
19. What difficulty respecting the locality of the miracle related in Matt. viii. 28-34 and the parallel passages, and what is to be said about Gergesa?
20. Translate Matt. xi. 25. What idiom do you recognize in the relation of the last two clauses of the verse? Give other examples of it.
21. Distinguish σοφός, συνετός, φρόνιμος. From what is συνετός derived?
22. What view is to be taken of those passages in which our Saviour seems to predict his speedy personal and visible return to earth as the king and judge of men?
23. Why in some passages is "the coming of the Son of Man" so closely connected with the destruction of Jerusalem?
24. What is the *Mishna*, and when and by whom was it compiled? Into what languages has it been translated? What can you say of the *Gemara*? Describe the different modes of reference to these different parts of the Talmud.
25. Give an account of Cæsarea Philippi.

## PORTIONS OF THE SYNOPTIC GOSPELS, AND THE GOSPEL OF JOHN.—PROF. ABBOT.

### *Middle and Senior Classes.*

1. What is to be said of the difference between Matthew and Luke in respect to the discourse denouncing the Pharisees? (Matt. xxiii. 1-39; Luke xi. 37-52, xiii. 34, 35.)
2. What were the phylacteries, and the κράσπεδα? (Matt. xxiii. 5.)
3. Translate and explain Luke xii. 15, remarking on different constructions.
4. What is the lesson of the parable of the Unjust Steward? (Luke xvi. 1-13.) What important principle of interpretation is here illustrated?
5. Translate Luke xviii. 5. What is Meyer's explanation of the last clause of the verse? Is there any decisive grammatical objection to his view?
6. State and remark upon the chief points of contrast between the Synoptic Gospels and the Gospel of John.
7. Give an account of the modern controversy respecting the genuineness of the Fourth Gospel. What change of view is noticeable in regard to its date?
8. Sketch the external evidence for the genuineness of this Gospel, remarking on disputed points.
9. Describe the chief peculiarities of style and diction which characterize the Gospel and Epistles ascribed to John.
10. How do you explain ὁ λόγος (John i. 1), and ὁ λόγος σὰρξ ἐγένετο (i. 14)?

11. Give an account of those representations of "the word of God" and of "Wisdom" in the Old Testament and Apocrypha, and of the *Logos* in the writings of Philo, which throw light on this passage. What is to be said of the consistency of Philo's speculations? What important remarks are made by Zeller and Heinze respecting the conception of *personality* in ancient philosophy generally?

12. Is the expression *Mémra da-Yéyah* or "Word of Jehovah" used in the Targums to designate a *person* distinct from Jehovah?

13. If the *Logos* is viewed as a person, what does the use of the preposition *διά* in John i. 3, 10, imply respecting the agency ascribed to him? State, if you remember, the distinction which Philo illustrates in a striking passage between *τὸ ὑφ' οὗ*, *τὸ ἐξ οὗ*, *τὸ δι' οὗ*, and *τὸ δι' ὃ*.

14. Translate and explain John i. 9, remarking on different constructions.

15. Distinguish *ἀληθινός* from *ἀληθής*.

16. Remark on the important various reading in John i. 18.

17. Explain John i. 52. If *ἀπ' ἄρτι* is not genuine, from what passage in Matthew was it probably derived? What important characteristic of Christ's mode of teaching do these two passages illustrate?

18. To what does *πάντας* refer in John ii. 15? What part of the Temple is here intended? Distinguish *ὁ ναός* from *τὸ ἱερόν*.

19. John ii. 20. When did Herod begin the rebuilding of the Temple? How does the chronological datum here agree with that furnished by Luke iii. 1?

20. What is to be said of the received text in John v. 3, 4? What plausible theory has been recently suggested in regard to the locality of the pool of Bethesda?

21. Explain John v. 25-27.

22. Distinguish between *ἐξουσία*, *δύναμις*, *λαχὺς*, *κράτος*, *ἐνέργεια*.

23. Explain John x. 30, and point out its logical connection with what precedes.

24. How is the word *νόμος* used in John x. 34?

25. With Tischendorf's reading in John x. 38 (*γινώσκητε* for *πιστεύητε*) what is the distinction between *γινώτε* and *γινώσκητε*? What use of the aorist have we here?

26. What apparent disagreement is there between the first three Evangelists and the fourth respecting the time of the Last Supper? Remark particularly on the difficulties presented by John xiii. 1, 27-30, xviii. 28, xix. 14, 31, discussing the different views.

27. Describe the Feast of Tabernacles.

28. The Feast of Dedication.

## FUNDAMENTAL THEOLOGY.—PROF. STEARNS.

### Junior Class.

1. What is meant by primary beliefs?

2. What are the five tests? and what is the difference between the first three and the last two tests?

3. Explain the primary belief of cause.

4. What are the forms in which the cosmological argument is given?

5. Reply to the statement that we can suppose an infinite series of finite changes with their causes, as well as suppose an infinite self-existent being.

6. What is the logical defect of the cosmological argument?
7. What is the argument from design? What points are included in the word design? What is the principle on which it rests? and is that principle inductive or intuitive?
8. What is the reply to Wallace's explanation of the appearance of design?
9. What may be said to obviate the objection to intelligence drawn from malformations and useless organs?
10. What are the defects of the argument from design or intelligence?
11. What is the nature of the anthropological and moral argument? and what are the three items of it?
12. What is the nature of the *a priori* argument in theology? What is its syllogistic form? Whence do we derive its premises? and what is the criticism of it?
13. What was adverted to as the source of atheism?
14. What is the theoretical basis of the conviction of Divine existence?
15. What parts of it are found in the Scriptures? and where?
16. What is the theoretical basis of the conviction of Divine personality? and how is the idea of Divine personality to be held, explained, and guarded against error?
17. What is the distinction between the fundamental predicates and attributes of the Deity?
18. What are the principal points in the *a posteriori* evidence of the perfect goodness of God?
19. What is meant in relation to this question by the argument of approximation? and how is the proof attempted to be completed by considerations *a priori*?
20. What is the general definition of Pantheism? what the present influence of Spinoza's system? and what are the principal parts of Spinoza's doctrine?
21. Does he allow any standard of the perfect life?
22. What is his account of immortality?
23. What is the criticism of his method?
24. Where does he get his notion of substance?
25. How does his view of the human soul contradict human convictions?
26. How has he laid himself open to the charge of materialism?
27. Into what absurdities is he led by his statement in regard to the attribute of Thought in God?
28. What two classes of solutions of the problem of the origin of things? and to which will Spinoza's doctrine logically belong? and how must it be supplemented?
29. What is the character of all Pantheism?
30. To what preceding philosophers is the system of Taine intimately related? and why is it called naturalism rather than positivism?
31. What is his explanation of duty, order, and obligation, so far as he gives one?
32. What does he teach about substance and cause? And what becomes of human freedom and divine freedom in his system?
33. How does he explain the usual conception of God?
34. What is the purpose of the system of Vacherot?
35. What is his principal distinction? and how does he apply it to solve the questions about creation and evil?
36. What is Materialism? and the facts with which it is incompatible?

## EVIDENCES OF CHRISTIANITY.—PROF. STEARNS.

*Middle Class.*

1. What is the general statement of the question in regard to the evidences of Christianity? What is the order of thought or topics? and what is meant by external and internal evidences?

2. What is the argument for the genuineness of the Gospels, from the present agreement of the manuscripts? and what from the agreement of manuscripts at the close of the second century?

3. What is the importance of the testimony of the Fathers as showing the conviction of the community to which they belonged?

4. What is the presumption in favor of the testimony of the early church to the genuineness of the Gospels, to be drawn from their judgment concerning the genuineness of other books?

5. What inferences may be made bearing on the genuineness of the Gospels from a comparison of the Third Gospel with the Acts, and a comparison of the Acts with Paul's Epistles?

6. What is the reply to the objection that we have evidence of the existence of the Gospels in the latter part of the second century, and not earlier?

7. What is the worth of the references to the Gospels in the Apostolic Fathers?

8. Describe the kind of agreement between Justin's references and our Gospels.

9. Mention some places cited by him peculiar to each of our Gospels.

10. How does Justin describe the writings he uses?

11. State the objection from recurrent variations in Justin, and the reply.

12. Show the harmony of Justin's course with his historical position.

13. What two facts must be kept in view *together*, in order to appreciate rightly Justin's testimony?

14. What is the supposed testimony of Papias to Matthew and Mark? What the difficulty in relation to the term "logia" applied to the former, and in relation to the phrase "not in order," used of the latter?

15. What are the means of determining the date of the synoptics?

16. Why is the opinion of Baur, that Mark is the "Preaching of Peter," untenable?

17. What is the date of Celsus? the error of Volkmar respecting it? and what the amount of Celsus' testimony?

18. What were the characteristic opinions of the Gnostics? and what, in brief, the argument from the use of the gospels by Tatian, Valentinus, Heracleon, Basilides, and Marcion? Give specific statements in regard to each.

19. What is the mythical theory of Strauss? and the principal arguments in refutation of it?

20. What is meant by the charge that the defenders of the gospel miracles reason in a circle? and how is it shown to be untrue?

21. What are the indications of the need of miracles in connection with revelation? What is their use?

22. What is meant by internal evidence of the genuineness and authenticity of the Gospels? What is genuineness important for? What are the principles of evidence applicable here? Give some illustrations of the application of them, and of the manner in which Christ's character is brought out in scenes of miracle.

23. What is meant by the *peculiarity* of Luke? and how is it explained? and how does the peculiarity of the Third Gospel bear upon the origin of the account given by it?

24. What is the argument, from the representation early made by the apostles, for the authenticity of the life of Jesus Christ (including miracles)?

25. What is the corroboration of the gospel history by the witness of the Apostle Paul?

26. What are the points of difference between the discourses of Christ in the Fourth Gospel and those in the synoptics? Give an outline of the discussion.

27. What is the supposed bearing upon the apostolic authorship of the Fourth Gospel of the alleged discrepancy between it and the synoptics in relation to the date of the Last Supper and the Crucifixion, and also of the historical notices of St. John in connection with the Easter Controversy? and what solution has been offered of the difficulty?

28. What internal marks of genuineness are found in this Gospel?

29. What is meant by the testimony of Christ concerning himself? and what its validity?

30. What is meant by the experimental evidence of the divine origin of Christianity? and its force?

## THEOLOGY.—PROF. STEARNS.

### *Middle Class.*

1. What is meant by the natural Providence of God? and from what attributes does it flow?

2. What is meant by the moral Providence of God? and on what is it founded?

3. What is meant by Providence universal, particular, and special? and how is special distinguished from particular? and what view of special Providence is to be set aside as false?

4. What are the forms of conceiving of Divine Providence in relation to the material world, with some criticism upon them?

5. How may Divine Providence be conceived in relation to free beings?

6. What are your reasons for asserting the propriety of prayer? What are the objections to such assertion? What are reasonable objects of petition? and what is the teaching of Christianity on the subject? Give your criticism of what is called the Prayer-gauge.

7. What may be referred to as the most special instance of Divine Providence in history?

8. What is meant by Revelation being universal, special, and historical? and what is its relation to religion?

9. What is the qualification of the bearer of Divine Revelation, and his relation to others? In what sense may we allow a distinction between mediate and immediate Revelation?

10. Explain the two factors in Revelation, and the opposite misapprehensions which have arisen from overlooking the distinction between them.

11. What is the view of Lessing concerning the Divine Education of the Human Race? and how far may it be accepted?

12. What is meant by Inspiration? and is it an entirely different thing in the original bearer and in the recipients of Revelation?

13. Give an outline of the history of the Doctrine of Inspiration as held by the Fathers, by the mediæval church, and by the reformers.

14. What was the error of some Theologians following the Reformation, and the cause of it? the extent of the reaction against it? the purpose and view of Schleiermacher? the defect of his view? and what the best guaranty of a sufficiently correct apprehension of Revelation?

15. From what does the conviction of the origin of the matter of an Inspired writing arise? and what the essential meaning of 2 Tim. iii. 16, 17?

16. What is meant by Holy Scripture? and what are the two elements in it? and is there any distinction between Divine Revelation and the Bible?

17. By what was the Canon of the New Testament in general determined? What is the Central Object of Scripture? and what the order in relative value of different portions, and the place of the Scripture as a whole in the public worship of Christians?

#### *Senior Class.*

1. Criticism of the traditional doctrine of Original Sin and Righteousness.

2. What is the difference of opinion concerning the condition of primeval man, between Theologians and Ethnologists?

3. How has the doctrine of Total (Native) Depravity been stated by theologians who receive it? Do the two attributes Total and Native imply one another?

4. What is meant by the expression *Propensions to Sin*?

5. What is the supposed bearing of the manifestations of character in early life upon the doctrine of Total (Native) Depravity?

6. What is the full statement of the law of inheritance, and the cautions with which it is to be applied?

7. What is the proper meaning of the *natural* or psychical man?

8. What is the view of the most liberal theologians of the New School, those who wish to retain freedom unimpaired and still explain the universality of sin? What are the objections to this view? and what truth is contained in it?

9. Give the different definitions of sin.

10. What merit must be allowed to the teaching of Augustine, and what has been compromised in the reaction from it?

11. What are the different explanations of the facts in regard to sin by pre-existence, and the difficulties which surround the theory?

12. What was the importance of the Pelagian reaction, and what are the objections to the form of doctrine it introduces?

13. What is the explanation of Evil which appears to be implied by Christ?

14. What apparently is the relation of Evil to the moral education of man?

15. Can the liability to sin, or actual sin, be properly regarded as a necessary means of good? If answered in the affirmative, explain the sense.

16. What support does the doctrine of absolute predestination find in the 6th chapter of John and the 8th chapter of Romans?

17. What three suppositions may be made concerning the relation of Divine foreknowledge and predestination on the one hand, and human freedom and responsibility on the other? and if predestination be assumed

in its most absolute form, to what extent ought we to carry it out in relation to man ?

18. What are the five principal forms of conception of the Mediatorship of Christ ?

19. Under which of these would come the Trinity, in what forms is this doctrine found, and what are the two classes, to one of which every form of the doctrine is logically reducible ?

20. What is the validity of the explanation of the Trinity that there is a subordination of the Persons in regard to the mode of subsistence and operation, but not in regard to their nature ?

21. What is the course of proof for the doctrine of the Trinity ?

22. What the supposed direct proof from the New Testament, and what from the Old ?

23. What is the bearing on the Deity of Christ of John i. 1, and what is the explanation of the *λόγος* ?

24. What is the bearing upon the Deity of Christ of Romans ix. 5 ; 1 John v. 20 ; Titus ii. 13 ; John xx. 28 ; Phil. ii. 6, etc. ?

25. Illustrate the argument that Divine attributes are ascribed to Christ.

26. State how John x. 30 is explained, and how it may accord with the second principal conception of the constitution of the Mediator. What is the theological value of this conception, and what the difficulty appertaining to it ?

27. What is the validity of the argument for the Deity of Christ from the New Testament statements of the creation of the world in some sense by him ? (Cor. i. 13, 15, &c.)

28. What is the value of the argument that Christ is said in the New Testament to have received adoration as the Supreme God, or as equal to the Father ?

29. What is the *παράκλητος* promised in the Fourth Gospel ?

30. What are the principal arguments for the personality of the Holy Spirit, and adverse to it ?

31. Are the words of Christ given in the Fourth Gospel when speaking of the Comforter fully consistent with a trinitarian interpretation ?

32. What appears to have been the view of the early church in relation to the office of Comforter being performed by Christ ?

33. Give your opinion with reasons concerning the origin and growth of the doctrine of the Trinity, and the service it is thought to have rendered to the Christian truth.

34. State some of the principal philosophical forms of the doctrine, and their purpose.

35. What are the arguments for and against the personal pre-existence of Jesus Christ ?

36. What has been the recognition in Theology of the true humanity of Christ ?

37. What is the worth of the theory of the development of Jesus Christ by natural causes, what the objection by Strauss to Schleiermacher's doctrine of Christ's human perfection, and what its validity ?

38. Show how the Gospel of John has been interpreted in accordance with the theory of the impersonal *λόγος* united with Jesus, consider the objection to it and whether it can be removed.

39. What different views have been taken of the aim and expectation of Jesus, and what was his own view of his work ?

40. What modifications of the doctrine of the atonement was introduced by Grotius, and what was the occasion of his discussion ?



41. What are the principles respectively of the satisfaction and rectoral theories, the arguments for the first, and the objections brought against the first by the supporters of the last ?

42. Explain the use of sacrificial language by the apostles.

43. What rational view of the need of Christian self-sacrifice can be presented, and what characteristics of it contributed to its moral efficacy ?

44. Does *ἰλασμός* in the First Epistle of John ii. 2 sustain the doctrine of the vicarious punishment of Jesus Christ ?

45. On what ground does Jesus Christ himself place the forgiveness of the sinner, and what mean his words (Matt. xx. 28) ?

46. Give the traditional Protestant doctrine of Justification by Faith, the bearing of Christian teaching upon the doctrine, and state the Christian Truth.

47. What is the alleged support of the doctrine of endless punishment as an essential Christian doctrine, and what the efficacy of it as compared with other forms of the doctrine of retribution ?

### ETHICS. — PROF. STEARNS.

#### *Junior Class.*

1. What is the general analysis of the desires ?

2. What is the relation of man's constitution, in respect to the desires, to the world in which he is placed ?

3. What is the explanation of asceticism, and what its refutation ?

4. Give an analysis of the affections, explain their origin, mention points of distinction between desires and affections.

5. Explain how affection gives rise to desire. Are affections disinterested ?

6. Can the indulgence of the affections ever become selfish ?

7. What are the laws governing the affections ?

8. What are the three modes of volition ?

9. Define self-love. Give the definition of self-interest and its difference from self-love.

10. Define selfishness.

11. Is self-interest in the highest form always a sufficient motive for action ?

12. What caution is requisite for the pursuit of happiness ?

13. What is the explanation of the diversities of human judgments in regard to the morality of actions ?

14. What is the objection to Bain's derivation of the distinctive moral feeling and the idea of Obligation from Government and Punishment ?

15. What is the essence of the system of Hobbes ? What are the consequences, and what is the criticism of it ?

16. How shall we meet the objection of Bentham that the moral principle is anarchical or despotic ?

17. What are the different forms of the selfish system which spring from the different ways of apprehending the complete fact of personal well-being ?

18. What are the two classes of systems which base morality upon a disinterested principle, and how named ?

19-32. The same as the first fourteen questions of the paper for the *Middle Class*.\*

\* This arose from changes in the course of study.

*Middle Class.*

1. How does Adam Smith's introduction of the expedient of "an impartial spectator" to meet a difficulty reveal a weakness of his system?

2. What characterizes the systems of the moral sense in Shaftsbury, Butler, and Hume; and what is the fundamental difference between these instinctive philosophers and Smith?

3. What is the difference between the systems of Hutcheson and Hume? How are both assimilated to Utilitarianism, and what are the defects of each?

4. What is the peculiarity of the Rational Systems of Ethics, and how does that of Price differ from others? Name authors of other systems.

5. How was Price led to the consideration of the origin of ideas as preliminary to his exposition of his system?

6. How does he suppose the idea of good to be obtained? how does he define a moral action? and how does he suppose the different classes of virtues to be formed by the mind?

7. What are the consequences derivable from the doctrine of Price, that good is a quality of action only, a simple indefinable quality immediately discerned? Explain the different meanings of *good*, and show how Price confounds absolute good and moral good.

8. What is the method by which Kant proceeds in his moral inquiry? what the use he makes of the concepts of cause and duty? and how does he apply his distinction between the form and the matter of knowledge to the subject?

9. What is his twofold criterion of right, and the more important part of the criterion in his view?

10. What is the defect of the result at which he arrives as a solution of the principal moral problem?

11. Present Mill's doctrine of Utilitarianism. Is the doctrine that happiness is the sole end of life true as a theory of life and as a theory of morals? What is indicated by his introducing "a sense of Dignity" into his exposition? what the validity of his explanation of that "love of virtue for its own sake" which he regards as essential to a perfect life? What important truth is contained in his view?

12. What is the moral theory of Spencer, and what exceptions may be taken to it?

13. What is the theory of Darwin? its difference from those of Mill and Spencer? the main question between him and the Intuitionists, and the exceptions which may be taken to his view?

14. What are the three truths presented by the moral reason in its intuitive function? What is meant by Conscience, and by its being educable? What are the two principal signs or criteria of right actions? What is the full statement of the standard of right actions, and how is each of the two criteria necessary to supplement the other?

15. What is the force of the objection to human freedom from the "strongest motive"?

16. What the objection from the foreknowledge of God as made by Edwards? and how has it been attempted to obviate it?

17. What is the force of the objection that human actions can in a large majority of cases be predicted with certainty? What apparent concession has Mr. Mill made in allowing the power of the individual over his own character, and does he account for such power?

18-32. The same as the first sixteen questions (excepting No. 3) of the paper for the *Senior Class*.\*

\* See preceding note.

*Senior Class.*

1. What are the moral ideas, received in the Christian period, which were discerned with more or less clearness in the Greek Philosophy?
2. In what respects does Christian morality show itself superior to Greek and Roman morality?
3. What are the virtues to which Christian morality gives prominence?
4. What is the notion of the Just? its origin? its relation to positive Law? its comprehension?
5. What is the idea of the State and its relation to Society? and what is the difference between the terms?
6. Where is found the germ of the State? what its immediate origin? and in what sense is government of Divine origin?
7. Does it depend on the will of the individual whether he shall be a member of the State?
8. What is the function of the State? and what the limit of its power?
9. How are the rights of the individual affected by being a member of the State? and can he be said to surrender any natural rights?
10. What is primordial right, with its three subdivisions? and what the duty of the State in regard to it?
11. What is the right of Revolution?
12. Why has not man in Society a right to redress his own wrongs?
13. What is the ground and the extent of the duty of the State to provide for the education of the people?
14. What are the modes in which the State may promote the moral education of the people?
15. What is the ground of the right of any government to punish? State different opinions.
16. What are the proper ends of punishment? and what the order in which they come up to the mind? Show the harmony of these ends.
17. What is the idea of Marriage? the importance of it as a civil contract? the characteristics of it as a spiritual union?
18. What the reasons for asserting it to be a union for life? and what the reasons for Monogamy?
19. What is the doctrine of Jesus Christ concerning marriage and divorce? and what is added by the Apostle Paul? and how shall we interpret 1 Cor. vii. 15?
20. What is the difference on this subject between Catholics and Protestants?
21. State the two reasons why imperfection and sin ought not to be permitted too easily to destroy this relation.
22. What are the objections to facility of divorce?
23. What are the characteristic sentiments of the filial, fraternal, and conjugal relations which make the true family a moral preparation for the duties of society? and what is the duty of the State and the Church in relation to the family?
24. Supposing a normal development of man, and viewing virtue apart from the facts of sin and redemption, what is the general notion of moral virtue?
25. Mention the chief characteristics of it; show how it may be different in form in different individuals and yet essentially the same in all.
26. Give the ancient division into the cardinal virtues; that of De Wette, that of Rothe.
27. Explain the compatibility of a harmony of the virtues with the preponderance of a separate virtue in the individual character; and what is meant by talent?

28. Show the relation of the result of the actual imperfect evolution of virtue to the fact of redemption.

29. Why is the principle of Love essential to the accomplishment of the moral work of the individual and the collective man? and what are the characteristics of rational as distinguished from instinctive love? and the two objections to the last-named of these characteristics?

30. Explain the assertion that "selfhood is the condition of love."

31. Show how love serves the development of the individual loving person.

32. What foundation is there for the charge that Christianity appeals chiefly to selfish motives?

33. What for the charge that it favors asceticism?

34. Show the positive character of Christian morality.

35. How is the Christian Law of Philanthropy to be now applied?

36. What is the Christian Law of Edification?

### SCIENCE OF THOUGHT.—PROF. C. C. EVERETT.

#### *Junior Class.*

1. What do words represent?

2. Define the Proposition, and compare it with the Term, stating what is meant by the word Universal in this definition.

3. Show by evidence derived from the use of language the truth of the definition of the Proposition given.

4. Value of Proposition of Identity, and ground of mathematical certainty?

5. Psychological basis of Induction? compare with views of Hume and Mill.

6. State elements of a perfect classification.

7. The *à priori* basis of Theology, and certain fallacies apt to be connected with it?

8. Psychological basis of moral sense; stating relation of the second idea of the reason to the first?

9. State and criticise different theories of morality.

10. State the relation of certain Grecian philosophers to the ideas of the reason.

11. In what sense is the Syllogism essential to reasoning?

12. Give some account of antinomies essential to deduction.

13. Illustrate these with reference to the formation of a system of moral science, and the method of their solution in this case.

14. How far does inconceivability imply non-existence?

15. Place of hypotheses in science, with rules for their formation.

### HOMILETICS.—PROF. C. C. EVERETT.

#### *Middle Class.*

1. Purpose and kinds of exordium? What of a florid exordium?

2. Different forms of application?

3. What is gained by a good transition? Different forms of transition?

4. How many and what should be the unities of a sermon?

5. State the rules for arrangement.

6. "The wages of sin is death;" using this as a text, state and illustrate different methods of treatment.

## PHILOSOPHY OF RELIGION.—PROF. C. C. EVERETT.

*Middle Class.*

1. State the fundamental principle assumed by the Development Theory in general, and the nature of the arguments by which it is supported.
2. Theological aspects of the Theory.
3. State the fundamental principles peculiar to Darwinism, and the nature of the arguments by which it is supported.
4. State the theory of "average variation" as distinguished from "individual variation."
5. What does Darwin admit as given; and what may we assume to be involved in these admissions?
6. What relation of the ideas of the reason to one another is involved in the philosophy of despair? Illustrate by Schopenhauer.
7. Criticise and justify Schopenhauer's use of the word *will*.
8. Compare the views taken of the outer world by Kant and Schopenhauer.
9. How did Kant reach his thought of the thing in itself?
10. What did Spinoza mean by an adequate conception?
11. What by viewing things under a form of eternity?

## ETHNIC RELIGIONS.—PROF. C. C. EVERETT.

*Senior Class.*

1. Character and history of the Y-King?
2. Describe the interview of Confucius with Lao-tsze.
3. Nature of morality taught by Lao-tsze?
4. Meaning attached to the word Chang-ti at different epochs?
5. Earlier and later forms of honor paid by the Chinese to their ancestors, and how far this may be called worship?
6. The present relation to one another of different religions in China?
7. Meaning and use of the word Aryan?
8. Number and names of Vedas, and the parts of which each consists?
9. Dates ascribed to Vedic Hymns?
10. Civilization represented by Vedas?
11. Peculiarities of Rig-Veda?
12. Compare degree of personification of divinities in Vedas with that in Chinese and in Classic Literature.
13. Give some account of Dyaus.
14. Give some account of Varuna.
15. Office of Yama, and different theories in regard to him?
16. Beginnings of Pantheism in later Vedic Hymns.
17. How do the Upanishads justify the idea that the highest state of being is unconscious?
18. Division of Buddhist sacred literature?
19. Morality taught by Buddha?

# EXAMINATIONS IN THE LAW SCHOOL.

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## FIRST YEAR.

### REAL PROPERTY.—PROF. WASHBURN.

1. What is implied by an estate of inheritance, and what estates come within that description? If a man holding a term for twenty years dies, to whom does the estate go at his decease?

2. What is the use or purpose of inserting a condition in a lease? how is it enforced? who can enforce it? and how does it differ in this respect from conditions in deeds of freehold at common law?

3. What privities are there between lessor and lessee of an estate? What, if any, between lessor and assignee of lessee? What, if any, between assignee of lessor and assignee of lessee? What, if any, between lessor and a stranger entering without right upon the lessee, and taking possession of the premises?

4. If a tenant for years holds over after his term, what is he called? Can the lessor turn him out without previous notice? If he refuses to go when requested, how much force, if any, may lessor use to expel him?

5. If there be a condition in a lease that for non-payment of rent the lessor may enter and defeat the estate and expel the lessee, what steps, if any, are necessary on his part before actually proceeding to expel the tenant? when must these be taken? and if he postpones them till after the rent is due, what will be the effect upon his right to expel the tenant?

6. How does a mortgage differ from a conditional estate at common law in respect to the person who is to perform the condition? And is there any difference as to the right of redeeming the estate in the two cases, if the condition is broken?

7. By what process does a mortgagor, after the condition of his mortgage is broken, get back his estate? What is this right to regain his estate called? and how far is it regarded in the light of property in its being alienable and the subject of descent and inheritance?

8. What is the process called by which a mortgagee cuts off the right of a mortgagor to redeem his estate? and what are some of the modes by which this is effected? are they the same in all the States? and by which, if either of them, does the mortgagee become the owner of the estate?

9. What acts in the execution of a conveyance by deed are essential to give it validity and effect? If a deed is delivered before the name of the grantee is inserted, has it any effect or validity? May it be rendered valid and effective by the name being inserted afterwards by parol authority from the grantor?

10. What is the broadest and most usual covenant in deeds in this country? Can it be sued, in his own name, by the assignee of the original covenantor? In what way may it be assigned? and what is an essential requisite to its passing to an assignee, so as to be sued in his own name if broken?

## CONTRACTS. — ASST. PROF. AMES.

1. X offered, by letter, to receive from A and transport from New York to Chicago railroad iron, not exceeding 6000 tons, during certain specified months, at a specified rate per ton. A replied: "I assent to your agreement, and will be bound by its terms." After A's letter was mailed, but before it was received, A died. Was there a contract or not, and why?

2. X offered, by letter, to buy a certain estate belonging to A, and added, "If I do not hear from you by July 12, I shall assume that you accept my offer." Y offered, by letter, to buy a certain estate belonging to B. B replied that he was not yet fully prepared to assent to Y's proposal, but added, "If you do not hear from me by July 12, you may assume that I accept your offer." Letters were mailed July 11 by A and B, rejecting their respective offers, but were not received by X and Y till July 13. Was there a contract in either or both cases, or not, and why?

3. July 1, 1871, B guaranteed to A the payment of all debts due from C to A which should be unpaid a year from date. A threatening to sue on this guaranty, X promised to pay off, immediately, all C's liabilities to A, if A would promise not to sue B before July 1, 1872. To this A agreed, and forbore to sue B; but X refused to pay C's liabilities. Can A recover damages of X or not, and why? Suppose A's promise had been never to sue on the guaranty, and that he had sued B immediately, nevertheless: could he have recovered damages of X for the breach of his promise or not, and why?

4. X, after her husband's death, said to A that if he would prove that her husband owed him £20, she would pay it. A brings assumpsit, and at the trial it was found by verdict that the husband owed A that amount. It was moved in arrest of judgment that the action was not well brought. Should the judgment be arrested or not, and why?

5. A had begun a suit against X for a debt acknowledged to be due. X, in consideration that A promised to surcease the suit, promised to pay the debt. A surceased the suit, but X would not pay the debt. A brings assumpsit on X's promise. Who is entitled to judgment, and why?

6. A declares that X, by his writing indented, agreed with A that he (X) would accept of A £500, fourth subscription, so soon as the receipts should be delivered out by the company, and would pay for the same £950 on the 5th of November next after the date of the writing. Breach, non-payment of the money at the day. Demurrer. Who is entitled to judgment, and why?

7. A covenanted to give X possession of a certain estate June 1, 1870, and to execute a conveyance of the said estate on or before October 1, 1870; in consideration thereof X covenanted, on or before October 1, 1870, to accept and pay for the said estate the sum of £1000. X entered into possession June 1, but A did not tender a conveyance until October 3, when X refused to accept it. Is A entitled to damages for the non-acceptance or not, and why? Suppose A had covenanted to give possession on or before January 1, 1871, and had tendered the conveyance as before: would X be liable in damages for not accepting the conveyance or not, and why?

8. It was mutually agreed between A and X that, on or before June 1, 1870, A should convey a certain house to B, and that X in consideration thereof should pay A £1000. In May X notified A that he need not make the conveyance, but refused, June 1, to pay the £1000 on request. What are the plaintiff's rights, and why?

9. A agreed, March 1, 1869, to sell certain land to X for £1500, which X agreed to pay in three equal instalments at the expiration of three, six, and twelve months, respectively, from the time of the agreement. The deed was to be executed on the payment of the last instalment. No money was paid. In April, 1870, A sued X for the non-payment of the first and second instalments. The defence of X was that A had never tendered a conveyance. Who was entitled to judgment, and why?

10. A executes a conveyance of certain land to Y, and covenants for title, in consideration whereof Y covenants to pay £1000 within one month from the date of the agreement. Y discovering, before the end of the month, that A has no title, refuses to pay the £1000. Has A any cause of action or not, and why?

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### TORTS.—MR. LATHROP.

1. What are the elements of a tort?

2. What is meant by *damnum absque injuria*?

3. When can an officer arrest without a warrant, and when can a private person arrest without a warrant?

4. In an action of trover, when must a demand and refusal be proved in order to establish a conversion?

5. If A leaves, by mistake, a pocket-book containing money in the shop of B, and C finds it there and hands it to B to keep until the owner calls for it, and, after the lapse of a reasonable time, the owner does not call for it, and C then demands it of B who refuses to give it up, has C a right of action against B, and why?

6. Can one tenant-in-common of a chattel maintain an action against his co-tenant for the conversion of the chattel; and, if so, under what circumstances?

7. What is a privileged communication in the law of slander and libel?

8. If the defendant in an action of slander or of libel proves that the words were uttered or written under such circumstances that they are privileged, can the plaintiff in any case still recover; and, if so, how?

9. Are there or not any classes of privileged communications which are absolutely privileged? and, if so, what?

10. In an action for malicious prosecution, what must the plaintiff prove?

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### CRIMINAL LAW.—PROF. WASHBURN.

1. What characterizes the taking of goods as a larceny, as distinguished from a simple trespass? and how is larceny distinguished from embezzlement of goods?

2. If A feloniously steals B's watch, in how many forms might he be amenable by process of law for the act done? What would these forms of process be, and in whose names would they be prosecuted?

3. What are the functions of a grand jury? In what form do they make their action known? Who, by the English practice, prepares the paper which declares their action? and who by the American?

4. Who, in England, institutes or carries on a prosecution in a criminal case? and who does it in the United States?



5. What are the two classes into which crimes are divided by the English and American law? And in respect to which, if either, was there a forfeiture of goods upon conviction?

6. What difference, if any, would there be in respect to the right which A would have to settle and compound with B for the injury done him by B's stealing and carrying away his watch, or his assaulting and beating him without justifiable cause?

7. What would be the difference, if any, in the form of the judgment upon a plea in abatement for misnomer in a criminal prosecution where the verdict is against the defendant upon the plea, between a charge for a felony or a misdemeanor?

8. What would be a ground for arrest of judgment where the verdict has been returned against the defendant in a criminal prosecution?

9. What is meant by bills of attainder? and how far are they allowable or in use in the United States?

10. How far does entering a *nol. pros.* to an indictment affect the right of the government to commence and carry on a new prosecution for the same offence against the same defendant? At what stage of the prosecution does the prosecutor cease to have a right to enter a *nol. pros.* against the consent of the defendant?

## SECOND YEAR.

### REAL PROPERTY.—PROF. WASHBURN.

1. What is a widow's estate in dower? If it is subject to a charge like a mortgage, bearing interest, how much is she bound to contribute towards it? What must she do in order to avail herself of her right of dower in an estate subject to a mortgage made before her marriage?

2. Are there both incorporeal tenements and hereditaments? What is meant by a hereditament? What are some of the incorporeal hereditaments known to the law?

3. How and by whom may a fee-farm rent be created? What estate may be had in such a rent? What are some of the incidents to such estates? Is there any difference as to the right of dower out of such a rent, and a rent reserved in a lease for years?

4. How can a remainder be created? What, in case of a remainder created out of a fee, goes to make up the entire estate? What would be the effect, at common law, upon the secondary or subsequent estate, if there were a break or a hiatus between the parts into which it is attempted to divide the estate, if each of these parts was a freehold?

5. In what consists the difference and distinction between a contingent estate of freehold *in futuro*, limited by the way of contingent remainder, and one limited by conditional limitation? Which, if either, could be created by conveyance at common law?

6. Can an independent freehold estate be created to commence *in futuro* at common law? If not, why? If it is otherwise now, how can it be done by deed, and by virtue of what statute is it made possible?

7. If an estate is limited to the use of A till B returns from Rome, and then to C and his heirs, what would be the estates of A and C? And what would they be, if the limitations were to the use of A, and if B comes back from Rome, then to C and his heirs?

8. What authority have courts of equity in enforcing naked powers,

and what in enforcing trusts? If two persons are clothed with a power and one of them dies before its execution, can the power be executed, and if so by whom? If one of two trustees dies before the trust is executed, who, if any one, can execute it? How are trustees supplied if those appointed fail to execute the trust by death or refusal to act?

9. If a testator, by his will, gives land to A B and his heirs, "hoping that he will permit J N to enjoy it as long as he lives," what interest or estate, if any, has J N in the land, and how can he obtain or enforce it, if he has any estate, if A B refuses to permit him to enjoy it?

10. What distinguishes devises to charitable uses from ordinary devises in wills? How are they carried into effect by the statute of Elizabeth? What is the doctrine of *cy-pres* when applied to charitable uses?

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### CIVIL PROCEDURE.—ASST. PROF. AMES.

1. At *nsi prius* the plaintiff proved the material part of the declaration, which, however, did not disclose a sufficient cause of action. Pursuant to leave reserved, the defendant moved for a rule *nsi* to set aside the verdict for the plaintiff and enter a non-suit. Should the rule be granted or not, and why? Mention the courses of procedure open to a defendant who conceives that the declaration is incurably defective; also those open to a plaintiff who conceives that the plea is incurably defective.

2. *Assumpsit* for goods sold and delivered. Plea, coverture at the time of the promise. Replication, that after the death of the husband defendant promised to pay. General demurrer and joinder. For whom should judgment be given, and why?

3. *Assumpsit* for goods sold and delivered. Plea, the Statute of Limitations. Plaintiff relies on a subsequent express promise. How shall he plead; and who will be entitled to judgment, and why?

4. *Assumpsit* for money lent by the plaintiff to the defendant's son at his instance and request. Verdict for plaintiff. Defendant moves in arrest of judgment. Should the judgment be arrested or not, and why?

5. What is the difference between an immaterial traverse and a traverse of an immaterial point? Give an instance of each.

6. Plaintiff being bound by recognizance to pay J. S. \$1000 in five years, by \$200 per annum, at a certain place, alleged that he was ready every day at that place to pay J. S. the said \$200, but that J. S. was not there to receive it. To this the defendant pleaded that J. S. was ready at the place to receive the \$200 *absque hoc* that the plaintiff was there ready to pay it. Plaintiff demurred specially. Who was entitled to judgment, and why?

7. Mention seven common counts. In which is an allegation of request material, and why?

8. *Assumpsit* for goods sold and delivered. Plea, infancy. Replication, that defendant was not an infant at the time when, &c., and that the goods were necessities suitable to defendant's condition in life. Special demurrer. Who is entitled to judgment, and why?

9. A declaration contained two counts:—

(a) *Trespass* for seduction of plaintiff's daughter, *per quod servitium amisit*. Plea, that plaintiff never had a daughter. Special demurrer.

(b) *Trespass* for asportation of plaintiff's cow. Plea, that plaintiff never had a cow. Special demurrer. Who is entitled to judgment on these counts, and why?

## 10. In the King's Bench.

On the 6th day of March, in the year of our Lord, 1870.

MIDDLESEX, to wit :

A. B., by E. F. his attorney, complains of X. Y., who has been summoned to answer the said A. B. in an action on promises. For that whereas, heretofore, in consideration that the plaintiff being then unmarried, at the request of the defendant, had then promised the defendant to marry him the defendant, he the defendant then promised the plaintiff to marry her within a reasonable time next after he should be thereunto requested by the plaintiff so to do ; and the plaintiff avers that she, confiding in the said promise of the defendant, hath always hitherto remained and continued, and still is, sole and unmarried, and was always, from the time of the making of her said promise until the marriage of the said defendant as hereinafter mentioned, ready and willing to marry the defendant, whereof the defendant hath always had notice ; yet the defendant, disregarding his said promise, after the making thereof and before the commencement of this suit, wrongfully and injuriously married a certain other person, to wit, one Edith Collins, contrary to his said promise. And therefore she brings her suit.

Point out the errors, and make the necessary corrections in the above precedent.

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EVIDENCE.—MR. GRAY.

1. Give an instance where evidence is admissible to show that a man on trial for a crime has committed other crimes of a like nature ; give an instance where such evidence is not admissible. Why should evidence be admitted in one of the cases and not in the other ?

2. In an action on a written contract the defendant relied on a release under seal to him from the plaintiffs. At the trial he failed to prove the release, owing to the absence of the subscribing witness. He then offered to prove by a witness that the plaintiffs had orally admitted to the witness that a release was given as alleged. State the reasons for and against the admission of this evidence, and your conclusion as to its admissibility.

3. What are the principal exceptions to the rule excluding hearsay evidence ? and how has the operation of the English rule admitting declarations made in the course of business been extended in this country ?

4. In an action by an innkeeper against a neighbor for maintaining a nuisance, the plaintiff offered evidence that guests leaving his inn said that they left on account of this nuisance. Was this evidence admissible as part of the *res gestæ* ? Give your reasons.

5. In an action for slander in calling the plaintiff a thief, the defendant pleaded the general issue. At the trial the defendant offered evidence that the plaintiff had the reputation of being a thief before the time of the alleged slander. Was this evidence admissible ? Give your reasons.

6. What evidence of opinion is admissible on the question of the genuineness of handwriting ?

7. In an action of trover for the conversion of a promissory note and a bond, the plaintiff, without giving notice to the defendant to produce either the note or bond, offered in evidence a copy of the note, and oral evidence of the contents of the bond. Was this admissible evidence as to both the note and the bond, or as to neither, or as to one and not as to

the other, and if the latter, as to which was it admissible? Give your reasons fully.

8. A testator had two brothers, Peter and Paul: Peter had a son named John, and Paul had a son named William. The testator gave a legacy "to my nephew John the son of my brother Paul." Was evidence of the testator's intent admissible for the purpose of showing which of his two nephews should have the legacy? If you consider that it was admissible, give an instance where extrinsic evidence of the testator's intent would not have been admissible. If you consider that it was not admissible, give an instance where extrinsic evidence of the testator's intention would have been admissible. Explain the difference.

9. What classes of facts does the law not allow to be proved, although relevant, because to do so would be against "public policy"? What theory of public policy is the ground of this exclusion?

10. In what methods can the veracity of a witness be impeached; and which of them can be employed in case of a party's own witness?

## JURISDICTION AND PROCEDURE IN EQUITY.

PROF. LANGDELL.

1. When can a bill be taken *pro confesso*, how is it done, and what is its effect?

2. When is a plaintiff entitled to a sequestration against a defendant, whether for not appearing, for not answering, or for not performing a decree? What is a sequestration, and how does it operate?

3. When the defendant does not appear at the hearing, what course must be taken by the plaintiff, and what must he do, in order to obtain a decree? When the plaintiff does not appear, what must the defendant do in order to obtain a dismissal of the bill?

4. When a plea is replied to, what is the subsequent course of the suit? [Answer this question, first, in reference to bills for relief; secondly, in reference to bills of discovery.]

5. When is a demurrer overruled by a plea, and when is a demurrer or plea overruled by an answer? [Answer both upon principle and upon authority.] When it is said that an answer to any part of a bill which is covered by a plea overrules the plea, what is meant by "covered"?

6. When must a plea be supported by an answer, and why? What purpose does such an answer serve, and to what parts of the bill should it extend, and why? Must, or not, a demurrer ever be supported by an answer, and why?

7. What is meant by incorporating in a bill an anticipatory replication? When is it proper to do so, and why? What effect, if any, does it have upon the defence? What is an anomalous plea, and what is the occasion for it?

8. What purpose, if any, is served by a plea in equity which would not be equally well or better served by an answer?

9. When an answer sets up a good affirmative defence to the whole bill, but neither admits nor denies any of the allegations contained in the bill, is it or is it not sufficient, and why?

10. When a defendant files an insufficient answer, what course must the plaintiff take to obtain a better one? If the defendant continues to file insufficient answers, what is the plaintiff's final remedy, and how is it obtained? [Answer in detail.]

SOME OF THE  
EXAMINATION PAPERS  
FOR  
ADMISSION TO THE LAWRENCE SCIENTIFIC SCHOOL.

June, 1874.

—♦—  
LATIN.

Translate as literally as is consistent with good English.

Translate:—

Caesar, necessariis rebus imperatis, ad cohortandos milites, quam in partem fors obtulit, decurrit, et ad legionem decimam devenit. Milites non longiore oratione cohortatus, quam uti suae pristinae virtutis memoriam retinerent, neu perturbarentur animo, hostiumque impetum fortiter sustinerent, quod non longius hostes aberant, quam quo telum adjici posset, proelii committendi signum dedit. Atque in alteram partem item cohortandi causa profectus, pugnantibus occurrit.

Give the principal parts of *obtulit, aberant, dedit, profectus*, and mark the quantity of each penult.

Decline throughout *rebus, fors, impetum, telum*. Give English words derived from the same root as *posset, alteram, pugnantibus, occurrit*.

Translate:—

Ad haec Caesar, quae visum est, respondit; sed exitus fuit orationis: "Sibi nullam cum his amicitiam esse posse, si in Gallia remanerent: neque verum esse, qui suos fines tueri non potuerint, alienos occupare: neque ullos in Gallia vacare agros, qui dari tantae praesertim multitudini sine injuria possint. Sed licere, si velint, in Ubiorum finibus considerare, quorum sint legati apud se, et de Suevorum injuriis querantur, et a se auxilium petant: hoc se ab Ubiis impetraturum."

Translate:—

Corripuere viam interea, qua semita monstrat.  
Jamque ascendebant collem, qui plurimus urbi  
Imminet, adversasque aspectat desuper arces.  
Miratur molem Aeneas, magalia quondam;  
Miratur portas, strepitumque et strata viarum.  
Instant ardentes Tyrii: pars ducere muros,  
Molirique arcem, et manibus subvolvere saxa;  
Pars optare locum tecto, et concludere sulco;  
Jura magistratusque legunt, sanctumque senatum;  
Hic portus alii effodiunt; hic alta theatris  
Fundamenta locant alii, immanesque columnas.  
Rupibus excidunt, scenis decora alta futuris.

Translate:—

“O socii, qua prima,” inquit, “fortuna salutis  
Monstrat iter, quaque ostendit se dextra, sequamur:  
Mutemus clipeos, Danaumque insignia nobis  
Aptemus. Dolus an virtus, quis in hoste requirat?”

Mark the feet in each of the last four lines.

Of what verb is *virtus* the subject? Explain the construction of *dextra*.  
Explain the subjunctives *aptemus* and *requirat*.

### ARITHMETIC.

1. Find all the divisors of 231.

Simplify  $\frac{32}{51} \times \frac{85}{112} \times \frac{189}{207} \times \frac{23}{36}$ . The greatest common divisor of three numbers is 15, and their least common multiple is 450. What are the numbers?

2. A cargo is worth 7 times the ship; what part of the cargo is  $\frac{5}{16}$  of the ship and cargo worth? Reduce to a common fraction 0.028 $\frac{4}{5}$ . Express 2.00 $\frac{1}{10}$  entirely as a decimal.

3. Reduce to a common fraction 0.021 $\bar{6}$ .

Express in the simplest manner as a circulating decimal 1 $\frac{1}{9}\frac{1}{5}$ .

4. Subtract  $\frac{2}{5}$  s. from  $\frac{2}{4}\frac{1}{5}$  £.

Divide 152° 46' 2" by 9, and reduce the quotient to degrees and decimal of a degree.

5. A house that cost \$8,250 rents for \$750; insurance  $\frac{3}{8}$  per cent.; repairs  $\frac{1}{4}$  per cent. What rate does it pay?

6. For what amount shall I make out a 60 days note, to be discounted immediately at 6 per cent per annum, to yield \$800?

7. How much water with 3 pts. of alcohol, 96 per cent strong, and 8 pts. 78 per cent strong, will make a mixture 60 per cent strong?

8. If one dollar is paid for sawing a cord of wood, each stick being cut into 3 pieces, how much should be paid for sawing the same quantity, each stick being twice as long as before, and cut into 4 pieces?

9. Define the are, the stere, the litre.

At the rate of 50 cents a pound, what will be the cost, in francs, of a kilogramme of butter?

1 franc = 18 $\frac{1}{2}$  cents; 1 gramme = 15.4346 grains; 1 lb. = 7000 grains.

10. Extract the cube root of 30, giving the third decimal place.

### ALGEBRA.

Candidates in Engineering, and those in Mathematics, Physics, and Astronomy, may omit No. 5. Those in Chemistry and Natural History may omit No. 8, and (b) and (c) of No. 9.

1. Define a root, a term, a surd, homogeneous terms.

2. Solve the equation  $\frac{6x+1}{15} - \frac{2x-4}{7x-16} = \frac{2x-1}{5}$ .

8. Separate into two factors  $b^2 - a^2 + 2bc + c^2$  and  $x^6 + y^6$ . Separate into prime factors  $x^6 - 64$ .

4. Simplify  $\left(\frac{x}{1+\frac{1}{x}} + 1 - \frac{1}{x+1}\right) \div \left(\frac{x}{1-\frac{1}{x}} - x - \frac{1}{x-1}\right)$ .

5. Solve the equations  $\frac{1}{x} + \frac{2}{y} - \frac{3}{z} = \frac{1}{4}$ ,  $\frac{3}{2x} + \frac{4}{3y} - \frac{4}{z} = \frac{5}{24}$ ,  
 $\frac{2}{x} - \frac{5}{y} + \frac{3}{2z} = 0$ .

6. Simplify  $\sqrt[3]{81} - \sqrt[3]{-512} + \sqrt[3]{192}$ .

7. The plate of a mirror 18 by 12 is to be set in a frame of uniform width, the area of the frame being equal to that of the glass. What is the width of the frame? State, but do not solve. Solve either of the following:  $2x+1 + 4x = 80$ ;  $x^3 - y^3 = 152$ ,  $x^2 + xy + y^2 = 76$ .

8. Prove that every term of the series 1, 2, 4, 8, &c., is greater by one than the sum of all the preceding terms.

9. (a) Define the logarithm of a number, and illustrate.

(b) Prove that  $\log_a b \times \log_b a = 1$ .

(c) Prove that, if the logarithms of several numbers form an arithmetical progression, the numbers themselves form a geometrical progression.

Given  $\log 2 = 0.3010300$ ;  $\log 3 = 0.4771213$ .

(d) Find  $\log \frac{1}{2}$  and  $\log 0.008\frac{1}{2}$ .

(e) Find by logarithms the value of  $x$  from the following proportion:

$$\frac{1}{53.008} : \sqrt{x} = x^2 : 42.0107.$$

## GEOMETRY.

Candidates in Chemistry or Natural History may omit Nos. 9, 10, 11, 12; those in Engineering, or in Mathematics, Physics, and Astronomy, may omit Nos. 2, 4, 5.

1. Define a square, a tangent, a secant, a circular segment, a prism.

2. Give all the cases when two triangles may be proved to be equal, and prove that two mutually equiangular triangles are similar.

3. Construct two similar triangles, one three times as large as the other.

4. What is the measure of the angle formed by two chords which intersect within a circle? State and prove.

5. Draw any pentagon, and construct an equivalent triangle.

6. Prove that the perpendicular from any point in the circumference of a circle upon a diameter is a mean proportional between the two segments of the diameter.

7. An equilateral triangle is inscribed in a circle. Prove that the ratio of its side to the radius of the circle is  $\sqrt{3} : 1$ .

8. The circumference of a circle contains as many linear units as there are surface units in its area. What is the area of the inscribed square?

9. Prove that, if a line is parallel to any line of a plane, it is parallel to the plane.

10. Two spherical triangles are mutually equiangular, but are not equal. What can you say about their sides, and what term is applied to the triangles?

11. Prove that each angle of a spherical triangle is greater than the difference between  $180^\circ$  and the sum of the other two.

12. The height of a right cylinder is equal to the diameter of the base. What is the ratio of its entire surface to that of the inscribed sphere?

### TRIGONOMETRY.

1. What functions of an angle are reciprocals? What functions of small angles may be considered proportional to the angles themselves?

2. Deduce the formula for the cosine of the sum of two angles.

3. Prove the formulæ  $\frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$ ;

$$\cos(30^\circ + A) + \cos(30^\circ - A) = \sqrt{3} \cos A.$$

4. Deduce the sine and cosine of  $300^\circ$  and  $-300^\circ$ .

5. Given  $a = 0.512386$ ,  $b = 0.353897$ ,  $c = 0.309051$ , and

$$\cos \frac{1}{2}A = \sqrt{\frac{s(s-a)}{bc}}; \text{ find } C.$$

6. Consider each of the following triangles, and determine whether it is possible or impossible; if possible, whether it has one, two, or more solutions. Give, in full, the reasons for your conclusions.

(a)  $A = 81^\circ 59' 32''$ ,  $B = 44^\circ 33' 12''$ ,  $C = 53^\circ 27' 16''$ .

(b)  $A = 38^\circ 36'$ ,  $B = 56^\circ 27'$ ,  $C = 84^\circ 12'$ .

(c)  $a = 121$ ,  $b = 115.36$ ,  $B = 94^\circ 15' 6''$ .

(d)  $A = 30^\circ$ ,  $b = 175.2$ ,  $a = 87.6$ .

(e)  $A = 30^\circ$ ,  $b = 175.2$ ,  $a = 150$ .

(f)  $a = 34.27$ ,  $b = 27.84$ ,  $c = 62.18$ .



# EXAMINATIONS IN THE MEDICAL SCHOOL.

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## First Year's Studies.

### ANATOMY. — PROF. HOLMES.

Describe the following parts, &c. : —

1. The serous membranes, their general characters and their connections.
2. Ciliated epithelium, — characters, uses, where found.
3. The antrum maxillare.
4. The sphenoidal suture.
5. The articulation of the axis and occiput.
6. The articulation of the lower jaw.
7. The omo-hyoid muscle.
8. The psoas and iliacus muscles.
9. The arteries of the brain.
10. The popliteal artery.
11. The external jugular vein.
12. The structure of a tooth ;
13. Its vessels and nerves, whence derived and how distributed.
14. An upper molar tooth.
15. The gall-bladder and its ducts.
16. The prostate gland.
17. The chief ganglionic masses of the encephalon ;
18. Its principal commissures.
19. The nerves arising from the medulla oblongata.
20. The cavity of the tympanum.

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### PHYSIOLOGY. — ASST. PROF. BOWDITCH.

1. What are the three classes of organic substances used as food ? Give examples of each, derived both from the vegetable and from the animal kingdom.
2. In what forms is force manifested in the various organs of the body ? Give examples.
3. How are fats digested and absorbed ?
4. Describe the movements and sounds of the heart.
5. How does the rapidity of the arterial blood-stream differ from that of the pulse-wave ?
6. Describe the condition of a muscle in voluntary contraction.
7. Describe Liebig's classification of foods, with the arguments for and against it.
8. Why does a child need more food, in proportion to its size, than an adult ?
9. Why is warm and moist weather more oppressive than warm and dry weather ?

10. Why are our sensations no guide as to the absolute temperature of our own bodies?
11. What is meant by vicarious function? Give examples.
12. Describe the mechanism of secretion in the salivary glands.
13. What is the origin of animal fat?
14. What nervous centres are situated in the medulla oblongata?
15. Describe the mechanism of secretion in the kidney.
16. What are the causes of glycosuria?
17. Describe the exchange of gases which takes place in the lungs.
18. What are the nerves of taste?
19. Describe the formation and flow of the lymph.
20. What organs are formed from the internal, and what from the external blastodermic membrane?

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GENERAL CHEMISTRY. — ASST. PROF. WOOD.

In addition to the following questions, a written report of the analysis of a solution containing inorganic substances was required.

1. Define an atom; a molecule.
2. What is the difference between empirical and rational formulæ? Illustrate by examples.
3. Explain the reactions which take place in the manufacture of sulphuric acid.
4. What are the oxides of manganese? How do the manganates of potassium act as disinfectants?
5. How can you detect a ferric salt in the presence of  $H_2\bar{T}$ ?
6. What is the action of  $H_2O$  on  $SbCl_3$  and  $BiCl_3$ ? How can the products be distinguished?
7. Give a comparative statement of the tests for arsenic and antimony, and state how antimony can be detected in the presence of arsenic.
8. Give the properties of mercury. What are the chemical and physical points of difference between corrosive sublimate and calomel? Mention the principal tests for mercuric and mercurous compounds in solution.
9. What reaction takes place between oxide of lead, water, and olive oil, at the temperature of  $212^\circ F.$ ? Write the reaction. [Olive oil =  $C_{18}H_{35}O_2$  ( $C_{18}H_{33}O$ )<sub>3</sub>.]
10. By what reactions may phosphates be distinguished from arseniates?
11. What is the difference between fermentation and acetification? Give the properties of and tests for acetic acid.
12. Give the properties of glycocoll. What is the relation between glycocoll and hippuric acid?

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Second Year's Studies.

MEDICAL CHEMISTRY. — ASST. PROF. WOOD.

In addition to the following questions, a written report of the analysis of a specimen of urine, and of a mixed organic and inorganic poison, was required.

1. What information can be gained by observing the daily quantity of urine?
2. Describe Liebig's method for the determination of urea.

3. What are the causes of albuminuria? Give the tests for albumen, and the precautions necessary in performing them in special cases.
4. What are the general characteristics of the urine in acute disease?
5. Describe the urine of acute cystitis. Of chronic cystitis.
6. What is a urinary sediment? Describe its organized constituents.
7. Describe a mulberry calculus, and the method by which you would determine its composition.
8. How would you satisfy yourself of the presence or absence of phosphorus in animal fluids or tissues?
9. Describe a case of chronic mercurial poisoning. How can you detect mercury in the urine?
10. How distinguish between acute and chronic poisoning by tartar emetic?
11. How distinguish between chronic lead and chronic copper poisoning?
12. Describe the method by which you would detect the presence of opium in the stomach.

#### MATERIA MEDICA. — ASST. PROF. EDES.

1. What are the nutritious constituents of arrow-root, sago, wheat, flour, oatmeal, beans, milk, and Liebig's extract of beef?

Mention the principal compounds of the following elements used in medicine, their origin, preparations, doses, and incompatibles: —

2. Potassium. 3. Sulphur. 4. Iodine. 5. Mercury. 6. Lead.

Mention origin, appearance, active principles, important preparations, and doses of the following drugs: —

7. *Ol. ricini*. 8. *Oleum theobromæ*. 9. *Kino*. 10. *Opium*. 11. *Cinchona*. 12. *Nux vomica*. 13. *Belladonna*. 14. *Ergot*. 15. *Rhubarb*. 16. *Podophyllum*. 17. *Copaiba*. 18. *Buchu*. 19. *Cinnamon*. 20. *Veratrum viride*.

- 21 and 22. Mention the quantities of alcohol in brandy, sherry, port, and ale, and state in what particulars the latter differ from each other.

What are the doses (in minims or in weight) of: —

23. *Vinum opii*; *Tr. opii deodor.*; *Acetum opii*; *Morphiæ sulph.*

24. *Colchici vinum seminum*; *C. vinum radidis*; *Ext. colchici acetum*.

25. *Extr. belladonnæ*; *Atropiæ sulph.*; *Tr. aconiti radidis*.

26. *Chlorali hydras.*; *Potassii bromidum*; *Potassii cyanidum*; *Ol. tigllii*.

- 27, 28, 29. Write three prescriptions of three active ingredients each, with necessary excipients, &c.

30. What are antidotes (not *treatment*) for opium? corrosive sublimate? caustic potassa? oxalic acid?

#### PATHOLOGICAL ANATOMY. — DR. FITZ.

1. What are the appearances of hemorrhagic infarction, and how do they occur?

2. What is the distinction between moist and dry gangrene?

3. What are some of the more important arguments favoring a local origin of tumors?

4. What forms of morbid growths may be found in the larynx?

5. What is meant by atelectasis of the lungs, and how may it be produced?
6. How does pneumothorax arise?
7. Hypertrophied heart : its appearances.
8. What conditions may produce dilatation of the heart?
9. What is meant by a cystic thrombus of the heart, and where is such most likely to be found?
10. What anatomical changes have been found in angina pectoris?
11. At what parts of the aorta are aneurisms found?
12. What changes in the stomach may be found when sulphuric acid is swallowed in large quantity, and how are such produced?
13. What are the gross appearances of malignant disease of the stomach?
14. What is the pathology of round ulcer of the stomach?
15. What are the usual seats of malignant disease in the intestinal canal?
16. How may hepatic abscesses be produced?
17. What appearances would suggest a multilocular echinococcus tumor of the liver?
18. What changes would you expect to find in leucæmia?
19. What alterations of the kidney may be found in Bright's disease?
20. What may be the origin of free bodies in the joints?

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#### Third Year's Studies.

#### THERAPEUTICS.—ASST. PROF. EDES.

1. By what channels may drugs be introduced into the system, and which of these are of the most frequent practical application? Give illustrations.
2. By what channels and in what proportion and form is hydrate of chloral eliminated?
3. Alcohol? 4. Tannic acid? 5. Arsenic?
6. Mention some of the cathartics in ordinary use, with the differences in their action.
- What are the action and indications for the use of :—
7. Digitalis? 8. Bromide of potassium? 9. Phosphorus? 10. Iron?
11. Belladonna? 12. Ipecacuanha?
13. What is the difference in the diuretic action of colchicum, spir. ætheris nitrosi, and oil of juniper?
14. What is the physiological action of aconite, and its effect on inflammation? Give illustrations.
15. Describe some of the physiological experiments recently made to explain and illustrate the action of quinia and the other cinchona alkaloids.
16. Mention some of the more important substances used as hypnotics and anodynes, their differences, and indications for their use.
17. What is the action and value of cold baths in typhoid fever? Describe the best methods of administering.
18. How and with what other substances may opium be used to avoid some of its disagreeable or injurious effects?
19. What are the symptoms of poisoning by chloroform, and what is their treatment?
20. Write recipes for a solution of morphia for hypodermic use; for quinia in pill.

## CLINICAL MEDICINE. — PROF. ELLIS.

1. What is the change in the retina in Bright's disease, as seen with the ophthalmoscope?
2. What change does the anterior fontanel undergo during the first year? At what age does it close?
3. How will you explain the affection of the pupils, strabismus, and defects of vision noticed in cases of disease of the spinal cord?
4. How would you decide upon the significance of numbness affecting a portion of the body?
5. Describe the boundaries of the lungs and the lobes of the same.
6. How would you distinguish chronic rheumatic arthritis from ordinary chronic rheumatism?
7. What is the difference between chlorosis and anæmia?
8. What are the dangers to be feared in whooping-cough, and at what period of life is the danger greatest?
9. What would influence you in deciding upon the necessity of tapping the chest when there is effusion?
10. At what point do you hear most distinctly the sound caused by closure of the aortal valves?
11. In what order and at what times do the teeth appear in the first dentition?
12. What acid or acids are found in morbid acidity of the contents of the stomach?
13. In what parts of the body does the eruption show itself most frequently in scabies?
14. What is favus? How would you treat a case?
15. What is amenorrhœa, and what are its causes?
16. What is the normal position of the uterus, and when do you consider the position so changed as to require treatment?
17. What are the causes of prolapsus uteri?
18. What local or constitutional treatment would you expect to influence the growth of a fibroid tumor of the uterus?
19. What are the causes of jaundice?
20. How would you treat a case of jaundice caused by catarrh of the duodenum?

## THEORY AND PRACTICE. — PROF. SHATTUCK.

1. What are the essential phenomena and symptoms in pyrexia?
2. The pathology of septicæmia.
3. The treatment of membranous croup.
4. The origin and source of contagion, and definition of infection.
5. Scarlatina; etiology and symptoms.
6. Diphtheria; etiology and diagnosis.
7. Etiology and treatment of periodical fever.
8. An enumeration and definition of constitutional diseases.
9. Etiology of gout and rheumatism.
10. Symptoms and diagnosis of acute laryngitis and croup.
11. Pathology of asthma.
12. Treatment and symptoms of angina pectoris.
13. Symptoms of acute peritonitis.
14. To what diseases is the liver liable?
15. Clinical history of Bright's disease.
16. Relations and diagnosis of hysteria and epilepsy.
17. Some account of alcoholismus.
18. How are internal organs affected by syphilis?

## OBSTETRICS AND MEDICAL JURISPRUDENCE.

PROF. BUCKINGHAM.

1. Give the signs of pregnancy : (1) those known to the woman alone ; (2) those which can be observed by the examiner. State as nearly as you can the times at which they appear.
2. What are the transitory and what the persistent signs of delivery ?
3. What signs of recent delivery will you find after death ?
4. Into how many stages will you divide a labor ? State the dangers attendant upon each, and how to obviate them.
5. Anticipating the formation of abscess in the substance of the breast, what course will you pursue ?
6. If it is not intended that your patient shall nurse her child, how will you treat her when the milk-flow begins ?
7. How may a vertex presentation accidentally become a face presentation ?
8. What symptoms during labor would lead you to suppose the antero-posterior diameter of the brim to be contracted ?
9. Symptoms, diagnosis, and treatment of pelvic cellulitis, after labor ?
10. In presentation of the cord, what course would you pursue ? Give your reasons.
11. Causes, diagnosis, and treatment of phlegmasia dolens ?
12. Describe the contents of the gravid uterus at the third month.
13. Under what circumstances and how will you produce *anæsthesia* ? How long will you allow your patient to remain under its influence ?
14. Describe the course you will pursue during the first stage of labor in a *pluripara*.

## QUESTIONS IN SURGERY. — ADJ. PROF. CHEEVER.

1. What are the dangers from a scalp-wound ? What the treatment (a) of the wound ; (b) of the sequelæ ?
2. Abscess of tonsil, — symptoms, treatment.
3. Mention the most common dangers from cut-throat, and how to treat them.
4. What does *emphysema* of the cellular tissue of the thorax indicate ? Treatment.
5. Pelvic abscess, — symptoms, terminations, treatment.
6. Cause and treatment of extravasation of urine.
7. Symptoms and treatment of ischio-rectal abscess.
8. Treatment of fractured patella.
9. Dislocation of elbow backwards, — symptoms, treatment.
10. What are the early symptoms of hip-disease ?
11. Describe *periostitis*, — treatment.
12. *Varicocele*, — nature, treatment.
13. What is a *neuroma* ? Where found after surgical operations ? Treatment.
14. *Scirrhus* cancer of the breast, — appearances, course if left untreated ?
15. Describe *mortification*.
16. *Talipes valgus*, — cause, nature, treatment.
17. Gunshot wound of knee, — treatment.
18. *Strabismus*, — cause, treatment.
19. How would you tie the common carotid ?
20. What parts are divided in lateral lithotomy ?

## EXAMINATIONS FOR WOMEN.

*A Preliminary Examination for Women was held for the first time in June, 1874. The following are the papers set, arranged in the order in which they were used.*

### FRENCH. — GRAMMAR AND HISTORY.

#### *Courses I. and II.*

#### GRAMMAR.

The following extract is given to test the ability of the candidate in translating easy French prose at sight. The translation should be in *good* English. French idioms should be rendered by corresponding English ones, whenever it is possible. If the writer fears she is going too far from the literal sense, the word-for-word meaning may be enclosed in parentheses; though this, as a general thing, is not advisable. Leave blanks for the words you do not know.

“Pierre qui roule n’amasse pas mousse,” dit un vieux proverbe que j’ai souvent entendu répéter par mon grand-père; c’est comme qui dirait que l’on ne s’enrichit guère à changer de place et à courir le monde. Aussi le père Simon, qui voyageait depuis quarante ans de foire en foire, avec un cheval chargé de deux gros paniers remplis de marchandises, n’était-il pas devenu bien riche à ce métier; mais il y avait gagné l’expérience, qui vaut de l’or: car il avait de bons yeux et de bonnes oreilles; il avait vu beaucoup de pays, beaucoup de gens, et entendu beaucoup de choses. Sa mémoire était excellente, en sorte qu’il se souvenait très-bien de tout cela; et comme le bon Dieu l’avait doué d’un sens droit et d’un esprit juste, il pouvait donner à chacun de bons conseils. Il ne les épargnait en effet à personne, et n’avait pas de plus grand plaisir que la conversation; peut-être même aurait-il pu passer pour un peu bavard. Cela n’empêchait pas que ceux qui l’écoutaient ne s’en trouvassent fort bien: car on peut dire que celui qui écoute emploie souvent mieux son temps que celui qui parle. Quant à Simon, il n’employait point mal le sien en parlant, puisqu’au contraire il ne disait que des choses sensées, dont chacun pouvait faire son profit, et que d’ailleurs, avant de se mettre à parler lui-même, il avait longtemps regardé et écouté. — JUSSIEU.

1. Translate the above.

2. Give the principal tenses of all the irregular verbs in the above.

Give the simple verb only; thus do not give *devenir*, but only *venir*. Do not repeat any verb that occurs more than once. Give the tenses in the following order; only the first person singular of the last two:—

INFINITIVE.	PRES. PART.	PAST PART.	PRES. IND.	PRETERITE.
<i>avoir.</i>	<i>ayant.</i>	<i>eu.</i>	<i>j’ai.</i>	<i>j’eus.</i>

3. Give in full the preterite (past definite) of *amasser*; the future of *répéter*; and the imperfect of *s’enrichir*.

4. What is the usual place of the adjective in French?

5. *Qui voyageait depuis* in the above text means: Who had been traveling for, &c. What about the difference in tense in French and English in such cases? Illustrate by examples, if you can, with the present as well as with the imperfect.

6. *Il avait de bons yeux et de bonnes oreilles*; why not *des bons yeux et des bonnes oreilles*?

7. *Peut-être même aurait-il*, &c.; why not *peut-être même il aurait*?

8. Translate into French, using mostly words in the first few lines of the above text: (a) We have often heard our grandfather repeat proverbs. (b) We like proverbs. (c) These proverbs are old, those are not. (d) Her horse is old. (e) His horse is not so old. (f) You have often told him so? (g) These are the baskets; have you not told them to fill them with moss? (h) Repeat it to me, or do not repeat it to me, as you please.

### HISTORY.

Omit altogether any two of the following questions. Answer any *one* as fully as you can, and indicate which one you have chosen to answer thus fully. The other four questions need not be answered so fully.

1. Who were the Merovingians, Carolingians (Carolingians), Capetians?

2. What is meant by *la Ligue*, *la Fronde*, *la Convention*, *les Cent-Jours*?

3. Write any thing you know about Jeanne d'Arc, Marie de Médicis, Bayard, Richelieu, Turenne, Turgot, Robespierre.

4. Arrange the following sovereigns in the order of time in which they lived, and state about when they reigned: Louis XIII., Clovis, Napoleon I., Saint Louis, Henry IV., Charles X., Jean, Philippe-Auguste.

5. Under whose reign did the massacre of Saint Bartholomew take place? Who were some of the victims?

6. With what French king did Charles the Bold of Burgundy struggle? What was the final result?

7. Mention some of the events that occurred in the reign of Louis XIV.

### FRENCH. — TRANSLATION.

#### Course I.

If you have not time to write the whole of the paper, omit 8 and 10.

1. Translate:—

Il a été le premier qui ait eu l'ambition d'être conquérant sans avoir l'envie d'agrandir ses États; il voulait gagner des empires pour les donner. Sa passion pour la gloire, pour la guerre et pour la vengeance, l'empêcha d'être bon politique, qualité sans laquelle on n'a jamais vu de conquérant. Avant la bataille et après la victoire, il n'avait que de la modestie; après la défaite, que de la fermeté; dur pour les autres comme pour lui-même, comptant pour rien la peine et la vie de ses sujets aussi bien que la sienne: homme unique plutôt que grand homme, admirable plutôt qu'à imiter. Sa vie doit apprendre aux rois combien un gouvernement pacifique et heureux est au-dessus de tant de gloire. —VOLTAIRE.

2. In the first line of the above, why is *ait* in the subjunctive? In the same line, could *il fut* or *il était* be used instead of *il a été*? Why?



3. Translate, explain, say anything you know about the italicized passages in the following:—

(a) Les premiers jours de juillet virent s'accomplir au *château de Germiandre, en Bourbonnais*, des événements assez *romanesques*.

(b) L'œil pouvait s'arrêter à contempler les chemინées *enjovivées* de figures et de guirlandes dans le goût de la *Renaissance*.

(c) En vertu du *droit d'aînesse*, le marquis avait *accaparé* tout le patrimoine.

(d) L'abbé avait jeté *le froc aux orties*.

(e) Il traversa la *Terreur* sans émigrer, sans être dénoncé, et sans perdre sa fortune.

(f) Le chevalier *déclina ses noms et qualités*.

(g) Ce moment arriva selon lui au 18 *brumaire*.

(h) Les femmes auxquelles il plaisait d'abord par sa jolie *figure* et sa belle *prestance*, arrivaient vite à se méfier de sa *méchante* langue et de ses *dépits* amers.

(i) Bientôt le salon se trouva rempli de parents au troisième, au quatrième, et au cinquième degré, les cousins plus ou moins *issus de germain*, neveux à la mode de Bretagne, tenants et aboutissants quelconques. — GEORGE SAND.

4. Translate:—

Le vieux domestique, tout en grondant, obéit et courut, d'après un autre ordre très-absolu, arrêter les Suisses, déjà dans la plaine, prêts à suspendre leurs prisonniers à un arbre, ou plutôt à les laisser s'y attacher; car l'officier, avec le sang-froid de son énergique nation, avait passé lui-même autour de son cou le nœud coulant d'une corde, et montait, sans en être prié, à une petite échelle appliquée à l'arbre pour y nouer l'autre bout. Le soldat, avec le même calme insouciant, regardait les Suisses se disputer autour de lui, et tenait l'échelle. — DE VIENY.

5. What is the meaning of the following expressions that occur in *Cinq-Mars*:—

Crier à tue-tête. *A la bonne heure! Il y va de notre vie.* Un ton larmoyant et un peu emphatique. Il a de grandes qualités, mais il ne parviendra pas parce qu'il est tout d'une pièce, cependant j'en fais grand cas. Une odeur qui fait mal au cœur. Vous n'êtes pas dégoûté! Un air galant et cavalier. Il m'a rompu en visière, j'en suis bien fâché pour lui.

6. Translate:—

LE M. Eh bien! monsieur, de quoi s'agit-il?

D. (d'un ton posé). Monsieur le marquis, parmi les nombreux témoignages de bienveillance dont vous m'avez comblé ce matin, il en est un surtout que je ne pouvais oublier. Monsieur le marquis a daigné m'exprimer en termes aussi touchants que flatteurs pour mon amour-propre le désir de m'entendre dans quelque importante affaire. Il s'en présente une qui promet d'être magnifique et paraît devoir exciter au plus haut point l'intérêt de monsieur le marquis.

LE M. Mon intérêt? Il me raille, je crois.

D. C'est un de ces beaux drames que le théâtre envie au temple de Thémis. Quand il se jouera, si madame la baronne veut bien accompagner son noble ami, je lui réserverai une place d'honneur, et tâcherai que ma parole soit digne d'un si brillant auditoire.

LA B. Ce sera pour nous un grand charme d'entendre à l'audience l'éloquente parole de monsieur Destournelles, mais nous ne sommes pas au palais, et sa présence ici, à titre d'avocat, a lieu, je n'en doute pas, d'étonner monsieur le marquis.

. LE M. C'est vrai . . . je ne m'explique pas que monsieur Destournelles. . . .

B. Eh bien ! soit, c'est moi, monsieur, qui vais vous adresser . . .

LE M. Monsieur, si un intérêt à débattre entre nous vous amène auprès de moi, vous auriez pu, ce me semble, mettre tout simplement mon procureur aux prises avec votre avocat. Si notre entrevue doit avoir un caractère particulier, je vous dirai, monsieur, qu'il n'est pas dans mes habitudes d'admettre un tiers à de pareils entretiens.

D. Par exemple ! . . Je dois l'appui de mon ministère à mon client.

LE M. Dans votre cabinet . . . au palais . . . c'est possible ! Mais ici, chez moi, devant moi, c'est autre chose. — SANDEAU.

7. In the last speech of the above, could *il est possible* be substituted for *c'est possible*? Why? What is the difference between *devant moi* and *avant moi*? Could *en* be used instead of *dans* in *dans votre cabinet*? Why?

8. Translate freely : —

Non, je tombe d'accord de tout ce qu'il vous plait :  
 Tout marche par cabale et par pur intérêt ;  
 Ce n'est plus que la ruse aujourd'hui qui l'emporte.  
 Et les hommes devraient être faits d'autre sorte.  
 Mais est-ce une raison que leur peu d'équité,  
 Pour vouloir se tirer de leur société ?  
 Tous ces défauts humains nous donnent, dans la vie,  
 Des moyens d'exercer notre philosophie :  
 C'est le plus bel emploi que trouve la vertu ;  
 Et, si de probité tout était revêtu,  
 Si tous les cœurs étaient francs, justes et dociles,  
 La plupart des vertus nous seraient inutiles,  
 Puisque on en met l'usage à pouvoir, sans ennui,  
 Supporter dans nos droits l'injustice d'autrui ;  
 Et, de même qu'un cœur d'une vertu profonde. . . .  
 MOLIÈRE.

9. Explain the construction in line five of the above. How is the word *autrui* used? Could you use *autrui* for *others* in such a phrase as "others say"?

10. Translate freely : —

Ami, peux-tu penser que d'un zèle frivole  
 Je me laisse aveugler pour une vaine idole,  
 Pour un fragile bois, que, malgré mon secours,  
 Les vers sur son autel consomment tous les jours ?  
 Né ministre du Dieu qu'en ce temple on adore,  
 Peut-être que Mathan le servirait encore,  
 Si l'amour des grandeurs, la soif de commander,  
 Avec son joug étroit pouvaient s'accommoder.  
 Qu'est-il besoin, Nabal, qu'à tes yeux je rappelle  
 De Joad et de moi la fameuse querelle,  
 Quand j'osai contre lui disputer l'encensoir,  
 Mes brigues, mes combats, mes pleurs, mon désespoir ?  
 Vaincu par lui j'entrai dans une autre carrière,  
 Et mon âme à la cour s'attacha tout entière,  
 J'approchai par degrés de l'oreille des rois,  
 Et bientôt en oracle on érigea ma voix.

J'étudiai leur cœur, je flattai leurs caprices ;  
 Je leur semai de fleurs le bord des précipices ;  
 Près de leurs passions rien ne me fut sacré ;  
 De mesure et de poids je changeais à leur gré.  
 Autant que de Joad l'inflexible rudesse  
 De leur superbe oreille offensait la mollesse,  
 Autant je les charmais par ma dextérité :  
 Dérôbant à leurs yeux la triste vérité,  
 Prêtant à leurs fureurs des couleurs favorables,  
 Et prodigant surtout du sang des misérables.

RACINE.

11. Upon what occasion and for what purpose was *Athalie* written ? Under whose reign did Racine live ? Account for the difference between the forms of the Scripture names in *Athalie* and those commonly used in English.

*Course II.*

If you have not time to write the whole of this paper, omit 8 and 10.

1. Translate : —

C'est simple comme bonjour, a-t-il continué. Après la grande débâcle, j'étais demeuré trois mois aux ambulances pour laisser à ma jambe de bois le temps de pousser. Une fois en mesure de réemboîter le pas, je pris congé du major et je me dirigeai sur Paris, où j'espérais trouver quelque parent, quelque ami ; mais rien, tout était parti, ou sous terre. J'aurais été mois étranger à Vienne. Cependant, pour avoir une jambe de moins à nourrir, je n'en étais pas plus à mon aise ; l'appétit était revenu, et les derniers sous s'envolaient. — SOUVESTRE.

2. Say anything you know about the word *en*. What is its force in the last line but one of the above passage ?

3. Translate : —

M. Ratn voyait dans le fou rire les choses les plus singulières, l'esprit du siècle, l'immoralité précoce, le signe certain d'un avenir déplorable. Sur ce point il pérorait avec passion, interminablement. J'attribue ceci à une verrue qu'il avait sur le nez. Cette verrue était de la grosseur d'un pois chiche et surmontée d'une petite houppe de poils très-déliçats, très-hygrométriques aussi : car j'avais remarqué que, selon l'état de l'atmosphère, ils étaient plus roides ou plus bouclés. Il m'arrivait souvent, durant mes leçons, de la considérer le plus naïvement du monde, comme un objet curieux, sans aucune idée de moquerie ; j'étais dans ces cas-là, brusquement interpellé, et tancé vertement sur ma distraction. D'autres fois, plus rarement, une mouche voulait obstinément s'y poser, malgré l'impatiente colère de mon maître, qui pressait alors l'explication, afin que, attentif au texte, je ne m'aperçusse point de cette lutte singulière. Mais cela même m'avertissait qu'il se passait quelque chose, en sorte qu'une curiosité irrésistible me faisait lever furtivement les yeux sur son visage. Selon ce que j'avais vu, le fou rire commençait à me prendre, et, pour peu que la mouche insistât, il devenait irrésistible aussi. C'est alors que M. Ratn, sans paraître concevoir le moins du monde la cause d'un pareil scandale, tonnait contre le fou rire en général, et m'en démontrait les épouvantables conséquences. — TÖFFER.

4. In the above passage the verbs are mostly in the imperfect tense. Why not in the preterite (past definite)? *Il vit* is "he saw" as well as *il voyait*, but what is the difference?

5. Translate:—

Enfin, ma bonne, nous voilà retombés dans le plus épouvantable temps qu'on puisse imaginer: il y a quatre jours qu'il fait un orage continuel; toutes nos allées sont noyées, on ne s'y promène plus.

Nos maçons, nos charpentiers gardent la chambre; enfin j'en hais ce pays, et je souhaite à tout moment votre soleil, peut-être que vous souhaitez ma pluie; nous faisons bien toutes deux.

Nous avons à Vitré ce pauvre petit abbé de Montigny, évêque de Léon, qui part aujourd'hui comme je crois, pour voir un pays beaucoup plus beau que ceux-ci. Enfin, après avoir été ballotté cinq ou six fois de la mort à la vie, les redoublements opiniâtres de la fièvre ont décidé en faveur de la mort. Il ne s'en soucie guère, car son cerveau est embarrasé; mais son frère l'avocat général s'en soucie beaucoup, et pleure très-souvent avec moi; car je le vais voir et suis son unique consolation: c'est en ces occasions où il faut faire des merveilles. Du reste, je suis dans ma chambre à lire, sans oser mettre le nez dehors. Mon cœur est content, parce que je crois que vous vous portez bien.

MME. DE SÉVIGNÉ.

6. Say anything you know about Mme. de Sévigné, and mention some of her most celebrated contemporaries that are alluded to in her letters?

7. Translate, explain, say anything you know about the italicized passages in the following:—

(a) L'intérieur d'une mansarde dans l'hôtel de Champcey.

(b) Il était en province, je ne sais où . . . dans un état de misère . . .

(c) Tu te rappelles mon père?—Ton père? *je crois bien!* Quel charmant vieillard! quel *entrain!*

(d) J'obéis à ma mère, *je fis mon droit.*

(e) Vous aviez cent mille francs de rente.

(f) Tu veux qu'on t'appelle *concierge* . . . eh bien! tu as les sentiments d'un *portier*.

(g) Eh bien, ce jeune homme, il a l'air très-*comme il faut*, il me semble.

(h) On pourrait atteler le vieux *berlingot* du père Yvart . . . il n'est pas *suspendu*, mais. . .

(i) MME. L. Nous avons bien une demi-douzaine de chevaux de selle qui ne demandent qu'à se promener . . . mais probablement vous ne montez pas à cheval.

M. Je vous demande pardon, Madame; mais, véritablement.

M. L. Alain, faites seller un cheval . . . Lequel, dis, Marguerite?

B. Donnez Proserpine.

MAR. Gardez-vous-en bien! — FEUILLET.

8. Translate:—

MAÎTRE J. Si je ne vous fais pas aussi bonne chère que je voudrais, c'est la faute de monsieur votre intendant, qui m'a rogné les ailes avec les ciseaux de son économie.

H. Traître! il s'agit d'autre chose que de souper; et je veux que tu me dises des nouvelles de l'argent qu'on m'a pris?

MAÎTRE J. On vous a pris de l'argent?

H. Oui, coquin; et je m'en vais te faire pendre, si tu ne me le rends.

LE COMMISSAIRE. Mon Dieu! ne le maltraitez point. Je vois à sa

mine qu'il est honnête homme, et que, sans se faire mettre en prison, il vous découvrira ce que vous voulez savoir. Oui, mon ami, si vous nous confessez la chose, il ne vous sera fait aucun mal, et vous serez récompensé comme il faut par votre maître. On lui a pris aujourd'hui son argent ; et il n'est pas que vous ne sachiez quelques nouvelles de cette affaire.

MAÎTRE J. Voici justement ce qu'il me faut pour me venger de notre intendant. Depuis qu'il est entré céans, il est le favori ; on n'écoute que ses conseils ; et j'ai aussi sur le cœur les coups de bâton de tantôt.

H. Qu'as-tu à ruminer ?

LE COMMISSAIRE. Laissez-le faire. Il se prépare à vous contenter ; et je vous ai bien dit qu'il était honnête homme.

MAÎTRE J. Monsieur, si vous voulez que je vous dise les choses, je crois que c'est monsieur votre cher intendant qui a fait le coup.

MOLIÈRE.

9. In the last speech in the above why is *dise* in the subjunctive ? *Que je vous dise*, unless rendered by the infinitive in English, would be translated "that I should tell you"; why then is it in the present, not in the imperfective subjunctive in French ? Why could not the infinitive be used as in English, "if you wish me to tell you" ?

10. Translate freely : —

Sire, de trop d'honneur ma misère est suivie.  
Je vous l'ai déjà dit, je l'ai trouvé sans vie ;  
Son flanc était ouvert, et pour mieux m'émouvoir,  
Son sang sur la poussière écrivait mon devoir ;  
Ou plutôt sa valeur en cet état réduite  
Me parlait par sa plaie, et hâtait ma poursuite ;  
Et, pour se faire entendre au plus juste des rois,  
Par cette triste bouche elle empruntait ma voix.

Sire, ne souffrez pas que sous votre puissance  
Règne devant vos yeux une telle licence,  
Que les plus valeureux avec impunité  
Soient exposés aux coups de la témérité,  
Qu'un jeune audacieux triomphe de leur gloire,  
Se baigne dans leur sang, et brave leur mémoire.  
Un si vaillant guerrier qu'on vient de vous ravir  
Éteint, s'il n'est vengé, l'ardeur de vous servir.  
Enfin mon père est mort, j'en demande vengeance,  
Plus pour votre intérêt que pour mon allégeance ;  
Vous perdez en la mort d'un homme de son rang ;  
Vengez-la par une autre, et le sang par le sang :  
Immolez, non à moi, mais à votre couronne,  
Mais à votre grandeur, mais à votre personne,  
Immolez, dis-je, sire, au bien de tout l'État  
Tout ce qu'enorgueillit un si grand attentat.

CORNEILLE.

11. Was *Le Cid* one of Corneille's early or late plays ? Who wrote first, Corneille or Molière ? What is the meaning of the word *Cid* ? Has the play any historic basis ?

# HISTORY.

Take any *eight* of the *thirteen* subjects given below; and number your answers as the subjects are numbered.

1. Write explanatory notes on the following lines :—

“Thy years are ripe, and over-ripe : the son  
Of *Macedonian Philip* had ere these  
Won *Asia*, and the throne of *Cyrus* held  
At his dispose : Young *Scipio* had brought down  
The *Carthaginian* pride ; young *Pompey* quelled  
The *Pontic* king, and in triumph had rode.”

2. Give some account of the wars between the Persians and the Greeks.

3. Describe the growth and greatest extent of the empire of Charles the Great (Charlemagne).

4. Pope Gregory VII.

5. Give some account of the period in which Charles V. was emperor (1519–1556).

6. Why was the Council of Constance called ? Why that of Trent ? What were the results of the two ? What new religious Order was founded shortly before the meeting of the Council of Trent ? Where are Constance and Trent ?

7. Comment upon the following passage :—

“During the one hundred and sixty years which preceded the union of the Roses, nine kings reigned in England. Six of these nine kings were deposed. Four lost their lives as well as their crowns.”

8. Name the Stuart kings of England, and point out some important events in their reigns.

9. Name *six* famous Englishmen, and tell why they are famous.

10. Briefly describe the events in American history of which the hundredth anniversary has recently passed, or will arrive in two or three years.

11. Name some of the places in the United States and the Dominion of Canada, which would probably be visited by a traveller on account of their historical associations. State the events on which the associations would depend.

12. Account for *six* of the following geographical names :—

Raleigh, Hampden, New York, Philadelphia, Pennsylvania, Louisiana, Alexandria (in Egypt), Batavia, Tasmania, the Philippine Islands.

13. What important discovery or invention do we owe to Newton ? Franklin ? Watt ? Fulton ? Whitney ? Stephenson ? Morse ? (Take at least *four* of the seven.)

## ENGLISH LITERATURE.

### LITERARY HISTORY.

1. Mention the chief literary works which appeared from 1350 to 1400 ; from 1550 to 1600 ; from 1700 to 1750 ; from 1800 to 1850. What are the limits of the period commonly called the Elizabethan ?

2. Who were the chief writers of plays in the 17th century ? Give the titles of some of the most famous of these plays.

3. What is an Epic Poem ? What is a Masque ? What is Didactic Poetry ?

4. What poems did Milton write in the earlier part of his life, and what in the later?

5. Who are our best Lyric poets? What species of poem is the Fairy Queen? Why is Cowley called a Fantastic poet?

6. Give some account of the life of any one of these: Chaucer, Shakspeare, Milton, Cowper, Scott.

7. Give some description of any one of the following works: Macbeth, the Tempest, Conius, the Essay on Man, Rasselas, the Lady of the Lake. [If you have read none of these, substitute some other work of any one of the authors.]

8. Who was Jeremy Taylor? Jonathan Swift? What was the Tatler? What is Percy's Reliques?

9. What revolution took place in English poetry about the beginning of this century?

10. Mention some of the most important works in English literature that you have read.

#### JULIUS CÆSAR: THE MERCHANT OF VENICE.

11. What plays of Shakspeare are founded on subjects from Roman history? Is Julius Cæsar the proper hero of the play called by his name? Whence is the story of the play derived? How old was Shakspeare when he wrote the "Merchant of Venice"? Give so much of the story of this play as relates to Portia.

12. Explain the words italicized in the following passages:—

I turn the trouble of my countenance  
*Merely* upon myself.

Have bared my bosom to the *thunder-stone*.

Not Erebus itself were dim enough  
To hide thee from *prevention*.

Nor the *insuppressive* metal of our spirits.

Thou, like an *exorcist*, hast conjured up  
My *mortified* spirit.

Desiring thee that Publias Cimber may  
Have an immediate *freedom of repeal*.

Live a thousand years,  
I shall not find myself so *apt* to die.

The *question* of his death is enrolled in the capitol.

Then in my tent, Cassius, *enlarge your griefs*,  
And I will give you audience.

How much I have *disabled* mine estate,  
By *something* showing a more swelling port  
Than my faint means would *grant continuance*.

There I have another bad *match*: a bankrupt, a prodigal, who dare scarce show his head on the *Rialto*; a beggar, that was used to come so *smug* upon the mart.

Young *Alcides*, when he did *redeem*  
The *virgin tribute paid by howling Troy*.

You stand within his *danger*, do you not?

In such a night  
*Medea gather'd the enchanted herbs*  
*That did renew old Æson.*

She doth stray about  
 By *holy crosses*, where she kneels and prays.

I do wonder,  
 Thou *naughty gaoler*, that thou art so *fond*  
 To come abroad with him at his request.

And let us make *incision* for your love,  
 To prove *whose blood is reddest*, his or mine.

Yet his means are in *supposition*: he hath an *argosy* bound to *Tripolis*.

13. Mark off the feet in the following lines, with such observations as will explain the metrical usages:—

Not in love neither? Then let us say you are sad.  
 By being peevish. I tell thee what, Antonio.  
 Neither have I money nor commodity.  
 I hate him for he is a Christian.  
 To rib her cerecloth in the obscure grave.  
 Is new converted: but now I was the lord.  
 But for your private satisfaction.  
 Whether Cæsar will come forth to-day or no.  
 My mortified spirit. Now bid me run.  
 Look how he makes to Cæsar: mark him.

Exercise in English composition, upon "The Uses of Novels."

## PLANE GEOMETRY.

1. Define *parallel lines*, *perpendicular lines*, a *right angle*.
2. Two straight lines are crossed by a third, and the alternate angles are equal: prove that the two lines are parallel.
3. Prove that a quadrilateral is a parallelogram when the opposite sides are equal.
4. Prove that two angles are to each other as the arcs intercepted between their sides, and described from their vertices as centres with equal radii.
5. Prove that when the circumferences of two circles cut each other, the line which joins their centres is perpendicular to the common chord of the circles and bisects it.
6. Upon a given line as chord to construct the segment of a circle such that an angle inscribed in that segment shall be equal to a given angle. Proof.
7. Prove that triangles are similar if their homologous sides are proportional.
8. Prove the Pythagorean Theorem.
9. From a point without a circle a tangent and a secant are drawn: prove that the tangent is a mean proportional between the whole secant and the part that lies without the circle.
10. Use the theorem last proved in solving this problem: Given in position two points and a straight line, to draw a circle through the points and touching the line.



11. Prove that regular polygons of the same number of sides are to each other as the squares of the radii of their circumscribed or of their inscribed circles.

Extend the theorem to the case of two circles.

12. To find by a geometric construction the side of a square two-thirds as large as the square of which this line is a diagonal :

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### ELEMENTARY PHYSICS.

1. Illustrate by examples the three laws of motion.
  2. What is meant by the moment of a force? Illustrate by the lever. What are the conditions of equilibrium?
  3. Give the chief properties of a simple pendulum.
  4. Describe the usual method of finding the specific gravity of solid bodies, and demonstrate the principle of Archimedes on which it is based.
  5. Define the principal elements of wave-motion, the velocity of a wave, the length of a wave, the time of oscillation. What is the relation between the three? What is meant by the amplitude of a wave? Illustrate also what is meant by the phase of an oscillating particle.
  6. What peculiar anomaly has been observed in the expansion of water? By what experiment or natural phenomena can this be illustrated?
  7. Describe the methods by which the velocity of light has been measured.
  8. Describe the effect of a prism in dispersing the rays of a beam of light, and explain the theory and general construction of the spectro-scope.
  9. In the wave theory of light, to what mechanical cause are the various luminous effects referred? What is meant by the wave-front? Explain the laws of reflection and refraction on this theory. In the wave theory what does the index of refraction represent?
  10. What is meant by polarized light? Describe some of the methods by which a beam of light may be polarized, and give some illustrations of its peculiar relations. Describe the phenomenon of double refraction.
  11. Illustrate the distinction between magnetic and diamagnetic bodies.
  12. Give some account of the phenomena produced by the earth's magnetism.
  13. Describe and state the theory of the constant battery invented by Grove.
  14. State the laws governing the mutual action of electric currents, and illustrate by citing experiments.
  15. State some of the chief conditions under which currents are induced in conducting wires by other currents or by magnets. Describe Rühmkorff's Coil and the Magneto-electrical Machine, stating clearly the principle of each.
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### PHYSICAL GEOGRAPHY.

1. Draw an outline map of North America and indicate upon it:
  - (a) the ten most important lakes;
  - (b) by light vertical shading (||||) those portions of the continent whose altitude is less than a thousand feet;

- (c) by heavy full lines (————) the axes of the principal mountain chains; and  
 (d) by light dotted lines (.....) the boundaries of the eight most important river basins.

NOTE. — Political divisions are not required. If in any case the lines required by (c) and (d) should coincide, draw them as far apart as may be necessary to show both clearly.

2. Name the two chief drainage centres of Europe. What rivers rise near each? Mention some important or interesting fact in connection with each of these rivers.

3. What is the length of the longest day at the Equator? at the Arctic Circle? at the North Pole? Account for the differences, if any.

4. Should you expect the phenomena of land and sea breezes to be more or less regular in Hayti than in Iceland? Why?

5. Describe the physical features of Hindostan.

6. Where are the llanos? the tundras? the pampas? the prairies? the steppes? the selvas? Mention anything you can about the vegetation peculiar to each.

7. Write as fully as time allows upon coral formations: their distribution, mode of growth, and varieties of form.

8. What are cyclones? How do the cyclones of the northern hemisphere differ from those of the southern hemisphere? By what other names are they also known?

9. Mention four or five of the most important subjects for investigation in the physical geography of the ocean, and select one for a detailed description.

10. How does the erosion vary in different parts of the course of a stream?

11. Compare the valleys of mountainous regions with those of the lowlands in respect to origin and subsequent changes.

12. Explain what is meant by the *relief* of a country, and show the importance of the study of relief.

## ALGEBRA.

1. From  $18x - [13a - (4b - 5a) + (9a - 6b)]$  subtract  $-a + 14x - [-15b - (\frac{2}{3}a - 2b)(\frac{4}{3}a + 3b) + \frac{1}{4}a(b - 12a)]$ .

2. Divide  $(x - y)^7 - (x^7 - y^7)$  by  $x^2 - xy + y^2$ .

3. Resolve the following expressions into their simplest factors: —  
 $(a^2 - b^2)$ ,  $(a^8 - b^8)$ ,  $(a^3 - b^3)$ ,  $(4a^6x^2 - 49a^4x^{10})$ .

4. Multiply  $\frac{a^2 - b^2}{\frac{a}{b} - \frac{b}{a}}$  by  $\frac{a^3}{a + \frac{b^2}{a - \frac{b^2}{a}}}$ .

5. Develop the following expressions by the Binomial Theorem: —

$$(a - b)^6, (a^m - b^n)^6.$$

6. Find all the solutions of the equations

$$(1) (x - 4)(x + 6) - 3x + 4 = -14;$$

$$(2) 2x^2 + 5x = 0;$$

$$(3) 3x^3 + x^2 - 2x = 0.$$

7. A certain person buys, at different prices, two pieces of goods, of which the first contains ten yards less than the second, and pays \$19 for the whole purchase. If the first price had been put on the second piece, the second piece would have cost \$12; and if the second price had been put on the first piece, the first piece would have cost \$7.50. Find the number of yards in each piece, and the price of each per yard.

8. Extract the square root of  $\left(x + \frac{1}{x}\right)^2 - 4\left(x - \frac{1}{x}\right)$ .

### ARITHMETIC.

1. Change  $\frac{8\frac{3}{4} \text{ of } \frac{4}{12\frac{1}{2}} - \frac{1}{3}}$  to a repeating decimal.

2. Find the smallest number which can be divided by 19, 28, 93, and 132, the remainder after each division being 6.

3. If stock be bought at 20 per cent below par, and sold at 16 per cent below, what per cent. is gained?

4. How many kilometres are there in 2 m. 6 fur. 39 rd. 5 yd.?

5. A bin 8 feet long,  $4\frac{1}{2}$  feet wide,  $2\frac{1}{2}$  feet deep, contains 75 bushels; how deep is a second bin, containing 450 bushels, which is 18 feet long, and  $3\frac{1}{2}$  feet wide?

6. If 7 men or 11 boys can do a piece of work in 28 days, in what time can 11 men and 7 boys do it?

### GREEK.

#### GOODWIN'S READER.

1. Translate page 26 (Xen. Anab. III. v. 8, 9, and 10) from ἀπορουμένους δ' αὐτοῖς to ἐπιφορῆσω. In what voice, mood, and tense are διαβιβάζσαι, ζεύξας, ἐπιβαλῶ, and from what present indicative forms? Explain (§ 9) the mood of δέουτο, and of παρέχοι.

2. Translate page 68 (Xen. Hell. II. iii. 24, 25), from ἐπεὶ δὲ ὁ Θηραμένης τοὶ τήνδε τὴν πολιτείαν καθίσταμεν.

From what present indicative, and in what voice, mood, and tense are τετράφθαι and περισώσασιν made?

What are the date and principal circumstances of the capture of Athens?

3. Translate page 98 (Plato, Apol. §§ 10 and 11) from τί οὖν αἰτιον τοῦ ἄλλου τόπον.

4. What were the date and the object of the expedition of Cyrus the Younger? Through what countries did the retreat of the Ten Thousand Greeks lie?

Give an account of the life, character, and trial of Socrates. What do you know of the personal history of Xenophon and Plato? What Grecian states took part in the battle of Mantinea?

### ILIAD (BOOK I.).

Translate vss. 531-543.

In what voice, mood, and tense are ἀνέσταν, μείναι, προσήδα, and from what verbs? Give the Attic forms corresponding to ἀνέσταν, ἐμεῦ, δικάζωμεν.

Explain the formation of the hexameter verse and write out, marking the feet and the quantities of the syllables, verses 292, 293, 294.

## GREEK GRAMMAR.

1. Decline ὄξω and πόλις in all numbers. Write the vocative singular of νῆσος, the nominative plural of βασιλείς.
2. Decline μέλας in all numbers. Compare the adjectives μῶρος, ἀληθής, and μέγας.
3. Decline δοτις in the singular in all genders, and σύ in the plural.
4. Give the principal parts of γινώσκω, ἔχω, and ἀποτυγχάνω.
5. Inflect the present imperative passive of βουλεύω, the second aorist optative active of λείπω, the present indicative active of ἵημι.
6. Give a synopsis of δίδωμι in the second aorist active in all the moods. Write down the aorist active infinitive of ἰκoύω, the aorist passive subjunctive of τιμῶ.
7. What general distinction in formation is there between verbs in μι and verbs in ω? Give a synopsis of οἶδα, and inflect the imperative. Inflect the perfect indicative passive of γράφω, explaining the euphonic changes.
8. Explain the cases of the following nouns: διδάσκει τὸν παῖδα τὴν μουσικὴν, ἡμείνων τῆς γυναικός. Give and explain the common construction in indirect discourse and in final (purpose) clauses. What moods and tenses are used in prohibitions? What is the gnomic aorist? Explain the leading forms of conditional sentences.

## LATIN GRAMMAR AND COMPOSITION.

1. Form the nominatives (marking the quantities) of these genitives: virtutis, finium, roboris, temporis, cineris, itineris, vasis, pueri, agri, maris, arcus, hiemis, equi, nivis, virium, coniugis.
2. Decline consul acer, hostis crudelis, numerus ingens, picta volucris, audax consilium. Compare gravis, humilis, acer, magnus.
3. Give the meaning of the suffixes in doc-t-or, doc-t-r-ina, divi-s-io, semin-arium, orna-mentum, gladi-olus, pie-tas, ama-bilis, doc-ilis, servilis.
4. Give the perfect indicative active (with the quantity marked) of cogo, cado, caedo, quaero, maneo, iubeo, cerno, aufero, cresco, facio, cano, vincio, vinco, rumpo.
5. What case is used with parco, iuvo, amans, refert, similis, prosum?
6. Which is the right way of spelling: nuncius or nuntius? maestus or moestus? condicio or conditio? epistola or epistula? abjicio or abicio? coena or caena or cena? cum or quum or quom? emptus or entus? tentare or temp-tare?
7. Translate into Latin: —  
 (a) Lucilius used<sup>1</sup> to say that he wished<sup>2</sup> what he wrote<sup>3</sup> to be read<sup>4</sup> neither by the very unlearned<sup>5</sup> nor the very learned.  
<sup>1</sup> soleo. <sup>2</sup> volo. <sup>3</sup> scribo. <sup>4</sup> lego. <sup>5</sup> indoctus.  
 (b) The-people-of-Clusium<sup>1</sup> sent<sup>2</sup> envoys<sup>3</sup> to Rome to ask<sup>4</sup> aid<sup>5</sup> of<sup>6</sup> the senate.  
<sup>1</sup> Clusini. <sup>2</sup> mitto. <sup>3</sup> legatus. <sup>4</sup> peto. <sup>5</sup> auxilium. <sup>6</sup> ab.  
 (c) Let every-man<sup>1</sup> get-acquainted-with<sup>2</sup> his own disposition<sup>3</sup> and show<sup>4</sup> himself a severe<sup>5</sup> judge<sup>6</sup> both of his virtues<sup>7</sup> and vices,<sup>8</sup> that stage-people<sup>9</sup> may not seem<sup>10</sup> to have more<sup>11</sup> sense<sup>12</sup> than<sup>13</sup> we.  
<sup>1</sup> quisque. <sup>2</sup> nosco. <sup>3</sup> ingenium. <sup>4</sup> praebeo. <sup>5</sup> acer. <sup>6</sup> iudex. <sup>7</sup> bonum. <sup>8</sup> vitium.  
<sup>9</sup> scaenicus. <sup>10</sup> videor. <sup>11</sup> plus. <sup>12</sup> prudentia. <sup>13</sup> quam.

## LATIN AUTHORS.

## VIRGIL.

## 1. Translate : —

Terra procul vastis colitur Mavortia campis,  
 Thraces arant, acri quondam regnata Lycurgo,  
 hospitium antiquum Troiae, sociique penates,  
 dum fortuna fuit. Feror huc, et litore curvo  
 moenia prima loco fatis ingressus iniquis;  
 Aeneadasque meo nomen de nomine fingo.

Sacra Dionaee matri divisque ferebam  
 auspicibus coeptorum operum; superoque nitentem  
 caelicolum regi mactabam in litore taurum.  
 forte fuit iuxta tumulus, quo cornea summo  
 virgulta, et densis hastilibus horrida myrtus.  
 accessi, viridemque ab humo convellere silvam  
 conatus, ramis tegerem ut frondentibus aras,  
 horrendum et dictu video mirabile monstrum.

(a) Explain *terra Mavortia*: define *procul*, and state what there is objectionable in the common translation of the word. Why  $\epsilon$  in *Thracts*? Case of *Lycurgo*? What construction would be used in prose? What kind of a name is *Aeneadas*? Explain the case.

(b) *Dionaea mater*: who? and why is Virgil inclined to magnify her? *divis*: what adjective may be added to make the context clearer in English? *auspicibus*: compounded of what? *rex caelicolum*: who?

(c) Give the reason (not the rule) for  $\tau$  in *campis*;  $\delta$  in *Lycurg*;  $\tau$  in *iniquis*.

2. Explain briefly the meaning (without translating) of this passage, in which "*Tityrus*" stands for "*Vergilius*," the "*Tuscan eques*" for "*Maccenas*;" the subject of *concepit* is *Tityrus*: —

Iugera perdiderat miserae vicina Cremonae,  
 flebat et abductas Tityrus aeger oves.  
 risit Tuscus eques, paupertatemque malignam  
 repulit et celeri iussit abire fuga:  
 . . . . .  
 protinus ITALIAM concepit et ARMA VIRVMQVE  
 qui modo vix Culicem fleverat ore rudi.

## PHAEDRUS.

## Translate : —

Pavo ad Iunonem venit indigne ferens,  
 cantus lusciniæ quod sibi non tribuerit;  
 illum esse cunctis avibus admirabilem,  
 se derideri, simul ac vocem miserit.  
 tunc consolandi gratia dixit dea:  
 "sed forma vincis, vincis magnitudine;  
 nitor smaragdi collo praeferet tuo  
 pictisque plumis gemmeam caudam explicas."  
 "quo mi," inquit, "mutam speciem, si vincor sono?"  
 "fatorum arbitrio partes sunt vobis datae:  
 tibi forma, vires aquilae, lusciniæ melos,

augurium corvo, laeva cornici omina,  
omnesque propriis sunt contentae dotibus."  
Noli adfectare quod tibi non est datum,  
delusa ne spes ad querelam recidat.

1. Explain the mood of *tribuerit* (2); of *derideri* (4); the case of *speciem* (9); *arbitrio* (10).

2. Write out the four first verses, mark the feet, and mark the quantity over each vowel.

# NEPOS.

Translate :—

HANNIBAL. — *Confluxerat apud Rhodanum cum P. Cornelio Scipione consule eumque pepulerat. Cum hoc eodem Clastidi apud Padum decernit sauciumque inde ac fugatum dimittit. Tertio idem Scipio cum collega Tiberio Longo apud Trebiam adversus eum venit. Cum his manum conseruit, utrosque profligavit. Inde per Ligures Apenninum transiit, petens Etruriam. Hoc itinere adeo gravi morbo afficitur oculorum, ut postea numquam dextro aequae bene usus sit. Qua valetudine cum etiamnum premeretur lecticaeque ferretur, C. Flaminius consulem apud Trasumenum cum exercitu insidiis circumventum occidit neque multo post C. Centenium praetorem cum delecta manu saltus occupantem. Hinc in Apuliam pervenit. Ibi obviam ei venerunt duo consules, C. Terentius et L. Aemilius. Utriusque exercitus uno proelio fugavit, Paulum consulem occidit et aliquot praeterea consulares, in his Cn. Servilium Geminum, qui superiore anno fuerat consul. Hac pugna pugnata Romam profectus est nullo resistente.*

1. Give the dates and causes of the three Punic wars, and the date of *Trasumenus* and place and date of *uno proelio fugavit*.

2. Draw a rough map of Italy, to show the places mentioned in the text.

# GERMAN.

FROM DON CARLOS.

I. Translate into English :—

Mar. Wärs<sup>1</sup> möglich? Wärs es? Also hätt' ich ihn  
Doch nicht gekannt? Nicht ganz? In seinem Herzen  
Wär' diese Falte wirklich mir<sup>2</sup> entgangen?  
Mißtrauen gegen seinen Freund!  
Nein! Es ist Lästerei! — Was that er mir,  
Daß ich der Schwächen schwächster ihn verlasse?  
Was<sup>3</sup> ich ihn zeihe,<sup>5</sup> werd' ich selbst — Befremden —  
Das mag es ihn, das glaub' ich gern. Wann hätte  
Er dieser seltsamen Verschlossenheit  
Zu seinem Freunde sich versehen? — Auch schmerzen!  
Ich kann dir's nicht ersparen,<sup>4</sup> Karl, und länger  
Muß ich noch deine gute Seele quälen.  
Der König glaubte dem<sup>6</sup> Gefäß, dem er  
Sein heiliges Geheimniß übergeben,  
Und Glauben fordert Dankbarkeit. Was wäre  
Geschwägigkeit, wenn mein Verstummen dir

Nicht Leiden bringt? Vielleicht erspart? Warum  
Dem Schlafenden<sup>6</sup> die Wetterwolke zeigen,  
Die über seinem Scheitel hängt? — Genug,  
Daß ich sie still an dir vorüber führe,  
Und, wenn du aufwachst, heller Himmel ist.

<sup>1</sup> Give mood and tense. <sup>2</sup> How governed? <sup>3</sup> How do you parse was? What cases does *zeigen* usually govern? What does the Marquis mean by this saying? <sup>4</sup> What is the force of *er* in composition? <sup>5</sup> When does *glauben* govern the dative, and when the accusative? <sup>6</sup> Conjugate *schlafen*. <sup>7</sup> Conjugate *hängen*.

## COMPOSITION.

## II. Translate into German:—

The Duke<sup>1</sup> of B. had three magnificent<sup>2</sup> palaces<sup>3</sup> in the city. He gave two of them to his two daughters and retained<sup>4</sup> the third for himself. Mr. W. has just published<sup>5</sup> a new edition<sup>6</sup> of his poems.<sup>7</sup> It is said to<sup>8</sup> contain<sup>9</sup> finer things than his last. I have not the book as yet, but I intend<sup>10</sup> to procure<sup>11</sup> it, and when I shall have read the poems I will give you my opinion<sup>12</sup> concerning<sup>13</sup> them. Do not put-off<sup>14</sup> your journey<sup>15</sup> on-our-account.<sup>16</sup> I have already put it off. Our friends have not yet returned<sup>17</sup> from the city; as soon as they return I will inform<sup>18</sup> you of it. The longer they stay<sup>19</sup> the more tired<sup>20</sup> they will be. If you will come to-morrow I will show you the picture<sup>21</sup> of which I spoke to you some<sup>22</sup> weeks<sup>23</sup> ago.<sup>24</sup> The abominable<sup>25</sup> weather<sup>26</sup> which we have had all this week has hindered<sup>27</sup> me from visiting<sup>28</sup> you. I must needs excuse<sup>29</sup> you, but come to me as soon as the weather will permit<sup>30</sup> (it).

<sup>1</sup> Herzog. <sup>2</sup> herrlich. <sup>3</sup> Palast, m. <sup>4</sup> behalten. <sup>5</sup> herausgeben. <sup>6</sup> ausgabe, f. <sup>7</sup> Gedicht, n. <sup>8</sup> soll. <sup>9</sup> enthalten. <sup>10</sup> gesonnen sein. <sup>11</sup> sich verschaffen. <sup>12</sup> Meinung, f. <sup>13</sup> über. <sup>14</sup> abstellen. <sup>15</sup> Reise, f. <sup>16</sup> unfertwegen. <sup>17</sup> zurückkehren. <sup>18</sup> benachrichtigen. <sup>19</sup> bleiben. <sup>20</sup> müde. <sup>21</sup> Bildniß, n. <sup>22</sup> einige. <sup>23</sup> Woche, f. <sup>24</sup> vor. <sup>25</sup> abscheulich. <sup>26</sup> Wetter, n. <sup>27</sup> verhindern, with infinitive. <sup>28</sup> besuchen. <sup>29</sup> entschuldigen. <sup>30</sup> erlauben; present tense.

Selected passages from "Das Wirthshaus zu Cransac" and an examination in the pronunciation of German.

## GERMAN GRAMMAR.

1. Explain such methods of forming the plurals of nouns as you may know.
2. Decline *der Vöte, das Herz, die Frau, die Mutter, der Bruder*.
3. Name some feminine terminations of nouns.
4. Of what gender are names of countries? Name some exceptions.
5. Of what gender are diminutives?
6. How are diminutives formed?
7. Decline *das große Haus*.
8. Different uses of *der*.
9. Decline *der*, used as a relative.
10. Decline *wer, was*.
11. Translate: "Whose book have you? Which book have you? The man whose book I have is not here."

12. Decline *derjenige Mann*.
13. When is *du* used in address? When *Sie*?
14. Explain the comparison of adjectives. Some irregular forms.
15. Explain the method of forming the imperfect and past participles of regular (or weak) verbs. Illustrate with *loben, lieben, glauben, reben*.
16. Explain method of forming imperfect or past participle of irregular (or strong) verbs. Illustrate with *tragen, schlafen, finden, biegen, bleiben*, (or with such other examples as may occur to you).
17. Conjugate in full the present (active and passive) of *tragen, sehen*.
18. Conjugate in full the present (active) of the reflexive verb *sich erfüllen*.
19. Name some of the prepositions which govern *both* the dative and accusative cases.
20. Name some of the words which throw the finite verb to the end of the clause.
21. Arrange the following words in the order in which they would stand in a German sentence:—  
 "Yesterday he was commanded to move with his forces against the sorely pressed city, although his own troops were not fresh. But this order he could not obey, since the reinforcements which he had long expected had not yet crossed the heights of W."

In addition to the above, there was an oral examination.



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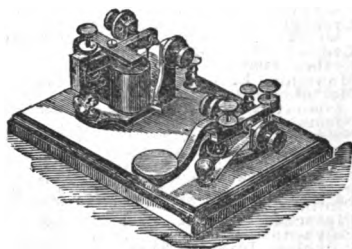
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